

WAYNE STATE UNIVERSITY  
Graduate Bulletin  
2012-2014

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# Academic Calendar 2010 - 2012

## Spring/Summer Term, 2012

Priority Registration	Mon., Feb. 6 - Sat., April 28
Open Registration	Mon., April 30 - Sat., May 5
Term Begins	Wed., May 2
Spring and Spring/Summer Classes Begin	Mon., May 7
Spring Session Late Registration	Mon., May 7 - Sat., May 12
Spring/Summer Session Late Registration	Mon., May 7 - Sat., May 12
Holiday: University Closed	Mon., May 28
Degree Applications Due	Fri., June 8
Day Scheduled as a Monday <sup>1</sup>	Fri., June 1
Spring Session Classes End	Fri., June 22
Spring Session Study Day	Sat., June 23
Spring Session Final Exams	Mon., June 25 - Tue., June 26
Summer Session Classes Begin	Wed., June 27
Summer Session Late Registration	Wed., June 27 - Tue., July 3
Holiday: University Closed	Wed., July 4
Census Date	Tue., July 3
Day Scheduled as a Wednesday for Summer Session	Fri., July 6
Spring/Summer Session Classes End	Fri., July 27
Spring/Summer Session Study Day	Sat., July 28
Spring/Summer Session Final Exams	Mon., July 30 - Thu., Aug 2
Summer Session Classes End	Tue., Aug 14
Summer Session Study Day	Wed., Aug 15
Summer Session Final Exams	Thu., Aug 16 - Fri., Aug 17
Spring/Summer Term Ends	Sat., Aug. 25, 2012

## Fall Term, 2012

University Year Appointments Begin <sup>2</sup>	Fri., Aug. 17
Priority Registration	Mon., March 26 - Sat., Aug. 18
Term Begins	Sun., Aug. 26
Open Registration	Mon., Aug. 20 - Tue., Aug. 28
Late Registration	Wed., Aug. 29 - Wed., Sep. 5
Classes Begin	Wed., Aug. 29
Holiday: University Closed	Mon., Sep. 3
Census Date	Wed., Sep. 12
Degree Applications Due	Fri., Sep. 28
Holiday: - No Classes	Wed., Nov. 21
Holiday: University Closed	Thu., Nov. 22 - Sat., Nov. 24
Commencement Ceremony	Sat., Dec. 8, Sun., Dec. 9
Classes End	Mon., Dec. 10
Study Day	Tue., Dec. 11
Final Exams	Wed., Dec. 12 - Tue., Dec. 18
Holiday: University Closed	Tue., Dec. 25 - Tue., Jan. 1
Term Ends	Mon., Dec. 31, 2012

## Winter Term, 2013

Priority Registration	Mon., Nov. 5, 2012 - Sat., Dec. 29, 2012
Term Begins	Tue., Jan. 1, 2013
Open Registration	Mon., Dec. 31 - Sat., Jan. 5
Late Registration	Mon., Jan. 7 - Sat., Jan. 12
Classes Begin	Mon., Jan. 7
Census Date	Fri., Jan. 18
Holiday: University Closed	Mon., Jan. 21
Degree Applications Due	Fri., Feb. 8
Spring Break: No Classes	Mon., March 11 - Sat., March 16
Classes End	Mon., April 22
Study Day	Tue., April 23
Final Exams	Wed., April 24 - Tue., April 30
Term Ends	Tue., April 30
Commencement Ceremony	Thu., May 2, and Fri., May 3
University Year Appointments End <sup>2</sup>	Wed., May 15, 2012

## Spring/Summer Term, 2013

Priority Registration	Mon., Feb. 4 - Sat., April 27
Open Registration	Mon., April 29 - Sat., May 4
Term Begins	Wed., May 1
Spring and Spring/Summer Classes Begin	Mon., May 6
Spring Session Late Registration	Mon., May 6 - Sat., May 11
Spring/Summer Session Late Registration	Mon., May 6 - Sat., May 11
Holiday: University Closed	Mon., May 27
Degree Applications Due	Fri., June 7
Day Scheduled as a Monday <sup>1</sup>	Fri., May 31
Spring Session Classes End	Fri., June 21
Spring Session Study Day	Sat., June 22
Spring Session Final Exams	Mon., June 24 - Tue., June 25
Summer Session Classes Begin	Wed., June 26
Summer Session Late Registration	Wed., June 26 - Tue., July 2
Holiday: University Closed	Thu., July 4
Census Date	Tue., July 2
Day Scheduled as a Thursday	Fri., July 5
Spring/Summer Session Classes End	Fri., July 26
Spring/Summer Session Study Day	Sat., July 27
Spring/Summer Session Final Exams	Mon., July 29 - Thu., Aug 1
Summer Session Classes End	Tue., Aug 13
Summer Session Study Day	Wed., Aug 14
Summer Session Final Exams	Thu., Aug 15 - Fri., Aug 16
Spring/Summer Term Ends	Sat., Aug. 24, 2013

## Fall Term, 2013\*

University Year Appointments Begin <sup>2</sup>	Mon., Aug. 19
Priority Registration	Mon., March 25 - Sat., Aug. 17
Term Begins	Sun., Aug. 25
Open Registration	Mon., Aug. 19 - Tue., Aug. 27
Late Registration	Wed., Aug. 28 - Wed., Sep. 4
Classes Begin	Wed., Aug. 28
Holiday: University Closed	Mon., Sep. 2
Census Date	Wed., Sep. 11
Degree Applications Due	Fri., Sep. 27
Holiday: No Classes	Wed., Nov. 27
Holiday: University Closed	Thu., Nov. 28 - Sat., Nov. 30
Commencement Ceremony	Sat., Dec. 7 and Sun., Dec. 8
Classes End	Mon., Dec. 9
Study Day	Tue., Dec. 10
Final Exams	Wed., Dec. 11 - Tue., Dec. 17
Holiday: University Closed	Wed., Dec. 25 - Wed., Jan. 1
Term Ends	Tue., Dec. 31, 2013

## Winter Term, 2013\*

Priority Registration	Mon., Nov. 4, 2013 - Sat., Dec. 28, 2013
Term Begins	Wed., Jan. 1, 2014
Open Registration	Mon., Dec. 30 - Sat., Jan. 4
Late Registration	Mon., Jan. 6 - Fri., Jan. 11
Classes Begin	Mon., Jan. 6
Census Date	Fri., Jan. 17
Holiday: University Closed	Mon., Jan. 20
Degree Applications Due	Fri., Feb. 7
Spring Break: No Classes	Mon., March 10 - Sat., March 15
Classes End	Mon., April 21
Study Day	Tue., April 22
Final Exams	Wed., April 23 - Tue., April 29
Term Ends	Tue., April 29
Commencement Ceremony	Thu., May 1 and Fri., May 2
University Year Appointments End <sup>2</sup>	Thu., Wed., May 15, 2014

\*Tentative.

1. An equal number of class days is needed for some laboratory courses. To make up for class days lost due to observance of holidays, substitute class days are scheduled.

2. 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

## 4 General Information

# GENERAL INFORMATION

This publication is for information purposes and is neither a contract nor an offer to contract. The University reserves the right to change any provision or requirement at any time without notice.

Contained in the following section are the general rules and regulations for graduate study at Wayne State University. It is the responsibility of the student to meet and satisfy all University, college and program requirements.

# University Administration

## *Board of Governors*

TINA ABBOTT, Chair  
DEBBIE DINGELL, Vice Chair  
EUGENE DRIKER  
DIANE L. DUNASKISS  
ALLAN D. GILMOUR, Ex Officio

DANIALLE KARMANOS  
PAUL E. MASSARON  
ANNETTA MILLER  
GARY S. POLLARD

## *President and Cabinet*

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RONALD T. BROWN, Ph.D., Provost and Senior Vice President for Academic Affairs  
AHMAD EZZEDDINE, Ph.D., Associate Vice President for Educational Outreach and International Programs  
PATRICK LINDSEY, M.A., Vice President for Government Affairs  
ROBERT KOHRMAN, M.A., Associate Vice President for Budget, Planning and Analysis  
LOUIS LESSEM, J.D., Vice President and General Counsel  
JULIE MILLER, M.A., Secretary to the Board of Governors and Senior Executive Assistant to the President  
RICHARD NORK, Vice President, Finance and Business Operations and Treasurer and Chief Financial Officer  
HILARY H. RATNER, Ph.D., Vice President for Research and Interim Dean of the Graduate School  
DAVID RIPPLE, M.A., Vice President for Development and Alumni Affairs, and President of the Wayne State University Foundation  
EDWARD (NED) STAEBLER, M.S., Vice President for Economic Development.  
MICHAEL WRIGHT, M.B.A., Vice President of Marketing and Communication and Chief of Staff

## *Academic Administrators*

ROBERT M. ACKERMAN, J.D., Dean of the Law School  
MONICA BROCKMEYER, Ph.D., Associate Provost for Student Success  
FARSHAD FOTOUHI, Ph.D., Dean of the College of Engineering  
JERRY HERRON, Ph.D., Dean of the Irvin D. Reid Honors College  
VALERIE PARISI, M.D., Interim Dean of the School of Medicine  
BARBARA K. REDMAN, Ph.D., Dean of the College of Nursing  
MATTHEW SEEGER, Dean of the College of Fine, Performing and Communication Arts  
CAROLYN SHIELDS, Ph.D., Dean of the College of Education  
KELLEY SKILLIN, Ph.D., Director of Professional and Academic Development  
ROBERT L. THOMAS, Ph.D., Dean of the College of Liberal Arts and Sciences  
CHERYL WAITES, Ph.D., Dean of the School of Social Work  
CORINNE WEBB, J.D., Associate Vice President for Enrollment Management  
MARGARET WILLIAMS, Ph.D., Interim Dean of the School of Business Administration  
MARGARET WINTERS, Ph.D., Associate Provost and Associate Vice President for Academic Personnel  
SANDRA G. YEE, Ed.D., Dean of University Libraries and of the School of Library and Information Science  
LLOYD Y. YOUNG, Pharm.D., Dean of the Eugene Applebaum College of Pharmacy and Health Sciences

# Foreword

## University Mission

As an urban research university, it is our mission 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.

## *Foundational Values*

Wayne State University is a national research university with an urban teaching and service mission. It is a constitutionally autonomous public university within the State of Michigan's system of public colleges and universities.

As a national research university, Wayne State is committed to high standards in research and scholarship. Its first priority is to develop new knowledge and encourage its application. Because it is a national research university, Wayne State develops and maintains strong graduate and professional programs in many fields, and in the arts, it fosters creativity and strives for excellence in performance and exhibition. To maintain its standards, the University seeks to strengthen those programs that have achieved national recognition while, at the same time, fostering programs which show promise for the future. Wayne State strives to maintain its performance ranking as measured by its funded research, the quality of its graduate programs as evaluated by national studies of graduate education, and the effectiveness of all academic programs as assessed by external evaluation.

As an urban teaching university, and because its graduates typically continue to live and work in the area throughout their lives, Wayne State seeks especially to serve residents of the greater Detroit metropolitan area, although it enrolls students from across the State, the nation, and around the world. WSU is dedicated to preparing students to excel in an increasingly advanced and interconnected global community.

The University offers more than 350 bachelor's, master's and doctoral degree programs as well as specialist, certificate and professional programs. It makes available high-quality educational programs in more than six hundred fields of study or concentration leading to more than three hundred different degrees at the bachelor's, master's and doctoral levels. As a nationally ranked university, Wayne State holds high expectations for the educational achievements of its students and consequently maintains selective admissions standards; but as an urban university it recognizes an obligation to develop special avenues that encourage access for promising students from disadvantaged educational backgrounds. The University aspires to implement its curricula in ways that serve the needs of a nontraditional student population that is racially and ethnically diverse, commuting, working, and raising families. Its student body is composed of students of traditional college age together with many older students, and includes many who are from the first generation in their family or neighborhood to attend a university. In its teaching, the University strives to be sensitive to the special experiences, conditions, and opportunities presented by this diversity in its student body. To meet its obligations to its nontraditional students, the University attempts to schedule classes throughout the metropolitan area, during the evening as well as during the day.

Wayne State University recognizes its obligation to serve. Like other major universities, it strives to serve the disciplines and professions represented among its academic programs as well as public and private sector organizations and associations at local, State, and national levels. As an urban university, it makes a special commitment to the Detroit metropolitan area in three ways: first, it uses its metropolitan locale as a setting for basic and applied research and

fosters the development of new knowledge of urban physical and social environments; second, it employs its locale as a teaching laboratory and incorporates metropolitan area materials into its curriculum; and third, it brings knowledge to bear to assist and strengthen the metropolitan area. In particular, Wayne State University contributes to the economic revitalization of southeastern Michigan through research programs that develop new technology and teaching programs that educate the citizens who will live and work in the region in the coming years.

Wayne State University respects and protects the personal and academic freedom of its students, faculty and academic staff. The programs and activities of the University are open to all qualified persons without regard to race, religion, marital status, sex, sexual orientation, age, national or ethnic origin, political belief, or physical handicap, except as may be required by law. The University seeks to demonstrate, through all its programs and activities, its appreciation of human diversity and to maintain an atmosphere of tolerance and mutual respect that will nourish human liberty and democratic citizenship.

A relatively youthful state university — part of Michigan's State supported system of higher education only since 1956 — Wayne State University has developed rapidly as a national research university with urban teaching and service missions. Nevertheless, it recognizes that much must be achieved before the goals it holds for itself are fully attained. It is pursuing those goals with pride in its progress and confidence in its future.

## History of the University

Wayne State has nearly 230,000 living alumni. More than 172,500 of them live in the State and more than 137,210 live in the Detroit area. Over thirty percent of all degree holding adults in the metropolitan area are Wayne State University alumni.

The early history of the University is an account of originally unrelated colleges and schools which were united in 1933 into a single institution, Wayne University, under the control of the Detroit Board of Education. In 1956, this institution became Wayne State University by formal action of the Governor and Legislature of Michigan. The following specific events are among the most significant in the University's first century of development.

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.

## Location

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 of 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. (For maps, see page 648.)

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.

## Organization

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 offer degree programs in their respective areas and together constitute the heart of the University:

- School of Business Administration
- College of Education
- College of Engineering
- College of Fine, Performing and Communication Arts
- Graduate School
- Law School
- College of Liberal Arts and Sciences
- School of Library and Information Science
- 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.

## Centers and Institutes

Wayne State University's centers and institutes play an integral role in the University's emphasis on encouraging innovative scholarship, providing service to society and strengthening its performance as a nationally recognized research university. WSU's centers and institutes embrace the multidisciplinary nature of scholarship and research within the University, and expand University boundaries by fostering collaborations with government, industry and organizations to enhance economic growth and the quality of life locally, nationally and globally. Our centers and institutes vary greatly in size, focus and mission. Some promote a primarily research-focused agenda, while others focus on instruction and/or community service.

The most recent version of WSU's policy on centers and institutes, adopted on November 30, 2005, identifies a two-tiered category of centers and institutes. Centers are grouped first into University or college centers. University centers are engaged in activities that involve more than one college/school and are under the direct administrative supervision of the President or designee. Within the university centers are Type I (primarily academic) or Type II (research centers) with oversight generally falling to the Provost or

the Vice President for Research, respectively. A college center is engaged in activities that primarily involve one college/school and is under the direct administrative supervision of the dean of that college/school. For complete descriptions of the functions of the following centers and institutes see page 48.

### *University Centers*

#### ACADEMIC

- Center for Urban Studies
- Cohn-Haddow Center for Judaic Studies
- Developmental Disabilities Institute
- Humanities Center

#### RESEARCH

- Barbara Ann Karmanos Cancer Institute
- Center for Molecular Medicine and Genetics
- Center to Advance Palliative-Care Excellence
- Institute of Environmental Health Sciences
- Institute of Gerontology
- Merrill Palmer Skillman Institute

### *School and College Centers*

#### BUSINESS ADMINISTRATION

- Institute for Organizational and Industrial Competitiveness
- Manufacturing Information Systems Center (MISC)

#### EDUCATION

- Center for School Health
- Center Self-Determination and Transition
- Institute for Learning & Performance Improvement
- Institute for the Study of the African American Child

#### ENGINEERING

- Bioengineering Center
- Center for Automotive Research

#### LIBERAL ARTS AND SCIENCES

- Center for Chicano Boricua Studies
- Center for Excellence and Equity in Mathematics
- Center for the Study of Citizenship
- Confucius Institute
- Douglas A. Fraser Center for Workplace Issues
- Labor Studies Center

#### MEDICINE

- C.S. Mott Center for Human Growth and Development
- Cardiovascular Research Institute
- Ligon Research Center of Vision

#### NURSING

- Center for Health Research

#### SOCIAL WORK

- Center for Social Work Practice and Policy Research

## Extension Services and Non-Credit Offerings

**Educational Outreach** provides extension services for the off-campus credit programs of the Colleges and Schools, as well as University-wide Spring/Summer sessions. The Colleges, Schools and instructional divisions have comprehensive responsibility for degrees and degree programs whenever they are offered. For further information, see page 42.

**Non-credit courses, seminars and programs** are offered primarily through Executive and Professional Development, a unit of Educational Outreach.

## Accreditation

Wayne State University as a whole is accredited as a doctoral degree-granting institution by the regional accrediting agency, The North Central Association of Colleges and Schools, The Higher Learning Commission, 30 N. LaSalle St., Suite 2400, Chicago, Illinois



60602-2504; telephone: 800-621-7440. In addition, more than forty 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 Board of Governors' Office, 4231 Faculty Administration Building. The principal accreditation agencies are as follows:

#### **BUSINESS ADMINISTRATION**

School: Accreditation Council of AACSB International – *The Association to Advance Collegiate Schools of Business (AACSB)*

On-line MBA: *North Central Association of Colleges and Secondary Schools —The Higher Learning Commission*

Advertising/Marketing Communications Curriculum: *International Advertising Association*

#### **EDUCATION**

College Accreditation: *Michigan Department of Education*

Art Therapy Program: *American Art Therapy Association*

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

Education Administration (Masters) Building Level Administrator: *Michigan Department of Education*

Educational Psychology, School Psychology concentration (Ph.D. only): *National Association of School Psychologists*

Education Specialist; Central Office Administration, Superintendent: *Michigan Department of Education*

Health Education Programs: *Michigan Department of Education*

Kinesiology Doctoral Program: *National Academy of Kinesiology/Physical Education*

Rehabilitation Counseling and Community Inclusion (graduate only): *Council of Rehabilitation Education, INC. (CORE)*

Teacher Education Programs: *Michigan Department of Education*

#### **ENGINEERING**

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

Division of Engineering and Technology (undergraduate) B.S. degrees in Electrical/Electronic Engineering Technology, and Mechanical Engineering Technology are accredited by the *Accreditation Board of Engineering and Technology, Inc. (ABET, Inc.)*,

#### **FINE, PERFORMING and COMMUNICATION ARTS**

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

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

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

#### **LAW**

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

#### **LIBERAL ARTS and SCIENCES**

Chemistry (undergraduate only): *American Chemical Society (ACS)*

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

Nutrition and Food Science (Coordinated Program in Dietetics): *Commission on Accreditation for Dietetic Education*

Political Science (Master of Public Administration): *National Association of Schools of Public Affairs and Administration (NASPAA)*

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

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

#### **LIBRARY and INFORMATION SCIENCE**

American Library Association (ALA)

#### **MEDICINE**

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

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

Genetic Counseling (Master of Science in Genetic Counseling): *American Board 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*

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

#### **NURSING**

College (Baccalaureate and Master's programs): *Commission on Collegiate Nursing Education (CCNE)*

Nursing Practice (Doctor): *Commission on Collegiate Nursing Education (CCNE)*

Midwifery Program: *Accreditation Commission for Midwifery (ACNM)*

Advanced Practice Nursing with Women, Neonates and Children: (Primary Pediatric Practitioner Program and Acute Care Pediatric Nurse Practitioner Program): *Pediatric Nursing Certification Board*

#### **EUGENE APPLEBAUM COLLEGE OF PHARMACY and HEALTH SCIENCES**

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

Industrial Hygiene Program: *Accreditation Board of Engineering and Technology, Inc. (ABET) — Applied Science Accreditation Commission*

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

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

Occupational Therapy: *Accreditation Council for 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)*

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)*

## **Equality of Opportunity**

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, national origin, religion, age, sexual orientation, marital status or disability. 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, in using 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 participating in an investigation.

Wayne State University complies with Titles VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as Amended, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Vietnam Era Veterans Readjustment Assistance Act of 1974 and Michigan Public Act 453.

Inquiries regarding equal opportunity Academic/Administrative policies or complaints may be made to the Office of Equal Opportunity, 4324 Faculty/Administration Building, Wayne State University, Detroit Michigan 48202; Telephone 313-577-2280 or <http://www.oeo.wayne.edu>

## **Non-Discrimination for the Handicapped**

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. (See page 61 for services available to disabled students.)

## **Drug and Alcohol Free Workplace**

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. A student or employee who is found to have violated this policy may be required to participate in a drug or alcohol treatment program as a condition of further employment or enrollment.

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 on Sexual Harassment**

It is the policy of Wayne State University that no member of the University community may sexually harass another. Any employee or student will be subject to disciplinary action for violation of this policy.

The law of the State of Michigan prohibits discrimination in employment and in education and provides that discrimination because of sex includes sexual harassment and sexual violence of any kind, including sexual assault. 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:

(a) 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.

(b) 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.

(c) 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. (MCLA 93.2103 (h))

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. (WSUCA 2.28.06.010-2.28.06.080).

## Policy on Workplace Violence

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.

It is a violation of the University's policy to bring certain items on campus, including all types of firearms, explosives, switchblade knives and any knife with a blade longer than three inches, and any other object carried for the purpose of injuring or intimidating. Violations of this policy may result in disciplinary action under existing policies.

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.

## GRADUATE SCHOOL

### Mission Statement

The mission of the Wayne State University Graduate School is to provide leadership in advancing graduate education and cultivate a supportive environment for research, scholarly activities and other creative endeavors that are integral to successful graduate students, faculty members and programs. It assures the quality and integrity of graduate programs and monitors the academic requirements for the Ph.D. degree, specific master's degrees and graduate certificates. The Graduate School also administers and regulates funds that support graduate studies and disseminates information related to graduate programs and policies. The University's Carnegie designation within the classification of Research Universities with very high research activity is reflective of a deep commitment to excellence in graduate education, relevance in academic curriculum, and leadership in research and scholarship. Accordingly, the Graduate School is committed to the highest standards of academic performance and ethical behavior.

### History and Procedures

Wayne State University's graduate and professional programs were established early in the history of the University and were unified within the newly-created Graduate School in 1933. Since that time, the Graduate School has grown steadily both in terms of quality and size and now ranks as one of the largest graduate schools in the nation. The University's Carnegie classification is reflective of a deep commitment to excellence in graduate education, relevance in academic curriculum, and leadership in research and scholarship.

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. The Graduate School monitors every significant stage in the doctoral student's career and ensures that all University-wide requirements have been fulfilled. Ph.D. Plans of Work must be approved by the Graduate School. A Ph.D. applicant cannot advance to Ph.D. candidacy without the Graduate School's approval. After the dissertation defense, the Graduate School conducts a final audit of the student's record to certify him or her for graduation.

For additional information, see the separate sections in this bulletin on Graduate School Admission (page 18), Graduate School Services for Students, Graduate Council (page 12), Graduate Faculty (page

12), and Financial Aid (page 26). See also the Graduate School's Website: <http://www.gradschool.wayne.edu/>

## GRADUATE SCHOOL DIRECTORY

### UNIVERSITY ADDRESS:

Wayne State University, Detroit, Michigan 48202;  
Telephone Area Code: (313)

*University Website:* <http://www.wayne.edu/>

*Graduate School Website:* <http://www.gradschool.wayne.edu/>

### GRADUATE SCHOOL

#### Main Office

5057 Woodward, Suite 6303.5, Detroit MI 48202  
*Telephone:* 577-2170; *Fax:* 577-2903

#### OFFICE OF GRADUATE ADMISSIONS

5057 Woodward, Suite 6000, Detroit MI 48202

*Telephone:* 577-4723; *Fax:* 577-0131

*E-mail:* [dgradadmissions@wayne.edu](mailto:dgradadmissions@wayne.edu)

*Website:* <http://www.gradschool.wayne.edu/future/>

(The Graduate Admission application is available at the website.)

#### Graduate Council Office

5057 Woodward, Room 6402.11

*Telephone:* 577-8050

### GRADUATE ASSISTANTSHIPS

Inquiries should be directed to the chairperson of the department in which the student intends to major.

### INTERNATIONAL STUDENT ADVISING

Office of International Students and Scholars

Welcome Center, 42 W. Warren, Suite 416

*Telephone:* 313-577-3422

*Website:* <http://www.oiss.wayne.edu>

### LOANS AND COLLEGE WORK-STUDY

Office of Student Financial Aid

Welcome Center, 42 W. Warren

*Telephone:* 577-3378

<http://www.financialaid.wayne.edu>

### STUDENT EMPLOYMENT

Career Services

1001 Faculty/Administration Building

*Telephone:* 577-3390

<http://www.sa.wayne.edu>

### BULLETIN REQUESTS

Bulletins now reside online at: <http://www.bulletins.wayne.edu>

### CAMPUS HOUSING

Office of Housing and Residential Life

598 Student Center

*Telephone:* 577-2116

<http://www.housing.wayne.edu>

### REGISTRATION

5057 Woodward Ave., Room 5101

*Telephone:* 577-3541

<http://www.classschedule.wayne.edu>

### WSU POLICE DEPARTMENT (PUBLIC SAFETY)

University Police Department

76 W. Hancock

*Telephone:* 577-2222

<http://www.police.wayne.edu/>

## Graduate Degrees and Certificates Offered through the Graduate School

The following certificates and degrees are offered through the Graduate School. Please consult the index to this bulletin to find descriptions of the following programs.

*Graduate Certificate in Infant Mental Health*

*Master of Science (Interdisciplinary) in Molecular and Cellular Toxicology*

*Master of Science in Molecular Biology and Genetics*

*Doctor of Philosophy in Molecular Biology and Genetics*

## Graduate Council

The Graduate Council, the policy-formulating body for the Graduate School, is composed of two members elected from the regular graduate faculty of each of the various schools and colleges of the University, at least one graduate student member, the Dean of the Graduate School, and three members of the graduate faculty appointed by the Dean of the Graduate School. The Council meets monthly during the academic year, and all meetings are open to the University community.

In 1968, the Board of Governors established the Graduate Council and granted it the 'authority and responsibility for the development of basic policies for the graduate education system and for the encouragement, improvement and evaluation of graduate programs throughout the University.' In addition to reviewing new and existing graduate programs, the Council sets admission standards for graduate programs, makes recommendations for graduate faculty appointments, establishes criteria and evaluates applications for the Graduate-Professional Scholarship program, and awards all Ph.D. degrees, select master's degrees, and interdisciplinary graduate certificates.

## Graduate Faculty

The Graduate Faculty consists of faculty members who are eminently qualified by virtue of preparation and competence to teach and direct research at the graduate level. Appointment to the Graduate Faculty does not modify a faculty member's responsibility to or affiliation with his or her department, division, college, or other instructional or administrative unit. The Dean of the Graduate School, on behalf of the Graduate Council, may appoint members of the WSU faculty to the Graduate Faculty, upon recommendation of their departments or divisions and with the approval of their deans.

Appointments to the Graduate Faculty are for a period of five years. Upon completion of the term, a qualified candidate may be recommended for reappointment to the Graduate Faculty by the department chairperson and the college dean.

## ACADEMIC PROGRAMS and DEGREES

The table on the following pages lists the major academic programs and degrees offered by Wayne State University. Academic programs are defined as any combination of courses leading to the designation of a major, or to a separate degree designation. An asterisk (\*) appended to a subject area indicates that a departmental honors major is also available in that field at the undergraduate level. Detailed descriptions of the programs may be found in the appropriate sections of the Undergraduate or Graduate Bulletin. The following index identifies standard abbreviations for University degrees and certificates, and the columns (Roman numerals) in the table indicating degree categories.

## Symbols and Abbreviations

### *Degree and Certificate Programs*

AuD .....	Doctor of Audiology
BA .....	Bachelor of Arts
BFA .....	Bachelor of Fine Arts
BGC .....	Bridge Graduate Certificate
BHS .....	Bachelor of Health Science
BMus .....	Bachelor of Music
BPA .....	Bachelor of Public Affairs
BS .....	Bachelor of Science
BSCM .....	Bachelor of Science in Construction Management
BSCT .....	Bachelor of Science in Computer Technology
BSEET .....	Bachelor of Science Electrical/Electronic Engineering Technology
BSEMT .....	Bachelor of Sci. in Electromechanical Engineering Technology
BSETT .....	Bachelor of Science in Electric Transportation Technology
BSMCT .....	Bachelor of Science in Mechanical Engineering Technology
BSMFT .....	Bachelor of Science in Manufacturing Engineering Technology
BSMS .....	Bachelor of Science in Mortuary Science
BSN .....	Bachelor of Science in Nursing
BSW .....	Bachelor of Social Work
DNP .....	Doctor of Nursing Practice
DPT .....	Doctor of Physical Therapy
EdD .....	Doctor of Education
ESC .....	Education Specialist Certificate
GC .....	Graduate Certificate
JD .....	Juris Doctor
LLM .....	Master of Laws
MA .....	Master of Arts
MADR .....	Master of Arts in Dispute Resolution
MAELR .....	Master of Arts in Employment and Labor Relations
MAT .....	Master of Arts in Teaching
MBA .....	Master of Business Administration
MD .....	Doctor of Medicine
MEd .....	Master of Education
MFA .....	Master of Fine Arts
MLIS .....	Master of Library and Information Science
MMus .....	Master of Music
MOT .....	Master of Occupational Therapy
MPA .....	Master of Public Administration
MPH .....	Master of Public Health
MS .....	Master of Science
MSET .....	Master of Science in Engineering Technology
MSN .....	Master of Science in Nursing
MSW .....	Master of Social Work
MUP .....	Master of Urban Planning
PBC .....	Post-Baccalaureate Certificate
PharmD .....	Doctor of Pharmacy
PhD .....	Doctor of Philosophy
PMC .....	Post-Master's Certificate
SCP .....	Specialist Certificate Program
SPL .....	Specialist in Library and Information Science
TC .....	Teaching Certificate
UC .....	Undergraduate Certificate

### *Columns Used in the Following Table*

I.....	Baccalaureate, First Professional Degree, or Undergraduate Certificate
II.....	Undergraduate, Post-Baccalaureate, or Graduate Certificate
III.....	Teaching Certificate
IV.....	Master's Degree
V.....	Specialist Certificate
VI.....	Doctoral Degree

# Academic Programs and Degrees

For interpretation of symbols and abbreviations used in this table, see preceding page.

School/College and Major	I	II	III	IV	V	VI
Accounting*:	BA, BS	PBC		MS		
Business Administration:				MBA		PhD
Business Administration: Joint JD/MBA:	JD			MBA		
Finance*:	BA, BS					
Global Supply Chain Management*:	BA, BS					
Information Systems Management*:	BA, BS					
Management*:	BA, BS					
Marketing*:	BA, BS					
Taxation:				MS		

## COLLEGE OF EDUCATION

Adapted Physical Education		BGC				
Art Education*:	BA, BS		TC	MEd		
Autism Spectrum Disorders		BGC				
Bilingual/Bicultural Education:		BGC	TC	MEd		
Career and Technical Education:	BA, BS	BGC	TC	MEd		
Coaching		BGC				
Cognitive Impairment		BGC				
College and University Teaching:		GC				
Counseling:				MA, M Ed	ESC	EdD,PhD
Counseling Psychology:				MA		
Curriculum and Instruction:					ESC	EdD,PhD
Early Childhood Education:		BGC		MEd		
Educational Leadership:				MEd		
Educational Leadership and Policy Studies:						EdD,PhD
Educational Technology		BGC				
Elementary Education*:	BA, BS	BGC	TC	MAT, MEd		
Elementary Physical Education		BGC				
English as Second Language		BGC				
English Education (Elementary and Secondary)*:	BA, BS		TC	MEd		
Emotional Impairment		BGC				
Evaluation and Research, Education:				M Ed		EdD,PhD
Foreign Language Education:			TC	MEd		
General Administration and Supervision:					ESC	
Health Education*:	BA, BS	BGC	TC	MEd		
Instructional Technology:	BA, BS			MEd	ESC	EdD,PhD
Kinesiology*:	BA, BS		TC	MEd		PhD
Language Arts (Elementary)*:	BA, BS					
Learning Disabilities		BGC				
Mathematics Education (Elementary)*:	BA, BS					
Mathematics Education (Secondary)*:	BA, BS		TC	MEd		
Music Education:			TC			
Online Teaching:		PBC, GC, BGC				
Psychology, Educational:				M Ed		PhD
Psychology, School and Community:				MA		
Psychology, School:		GC				
Reading:				M Ed	ESC	
Reading, Language and Literature:						EdD
Reading Specialist, K-12		BGC				
Rehabilitation Counseling and Community Inclusion:				MA		
Science Education (Elementary)*:	BA, BS					
Science Education (Secondary)*:	BA, BS		TC	MEd		
Secondary Education:			TC	MAT		
Secondary Physical Education		BGC				
Social Studies Education (Elementary and Secondary)*:	BA, BS		TC	MEd		
Social Studies Education/History Joint degree:				MEd/MA		
Special Education*:	BA, BS		TC	MEd	ESC	EdD,PhD
Speech Education (Secondary)*:	BA, BS		TC			
Sports Administration:				MA		
Visual Arts Education Specialist		BGC				

<i>School/College and Major</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
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**COLLEGE OF ENGINEERING**

Advanced Energy Storage Systems:.....	UC					
Alternative Energy Technologies:.....		GC		MS		
Biomedical Engineering:.....	BS			MS		PhD
Chemical Engineering*:.....	BS			MS		PhD
Civil Engineering*:.....	BS			MS		PhD
Computer Engineering:.....				MS		PhD
Computer Science*:.....	BA, BS	PBC		MA, MS		PhD
Computer Technology:.....	BSCT					
Construction Management:.....	BSCM					
Electrical Engineering*:.....	BS			MS		PhD
Control Systems.....	UC					
Electric-drive Vehicle Engineering.....		GC		MS		
Electrical/Electronic Engineering Technology:.....	BSEET					
Electric Transportation Technology.....	BSETT					
Electromechanical Engineering Technology:.....	BSEMT					
Engineering Entrepreneurship:.....	UC					
Engineering Management:.....		BGC		MS		
Engineering Technology:.....				MSET		
Injury Biomechanics:.....		BGC				
Industrial Engineering*:.....	BS			MS		PhD
Manufacturing Engineering:.....				MS		
Manufacturing Engineering Technology:.....	BSMFT					
Materials Science and Engineering:.....				MS		PhD
Mechanical Engineering*:.....	BS			MS		PhD
Mechanical Engineering Technology:.....	BSMCT					
Polymer Engineering:.....		GC				
Scientific Computing:.....		GC				
Sustainable Engineering:.....		GC				
Systems Engineering.....		BGC				

**COLLEGE OF FINE, PERFORMING AND COMMUNICATION ARTS**

Art*:.....	BA, BFA			MA, MFA		
Art History*:.....	BA			MA		
Communication*:.....				MA		PhD
Communication and New Media:.....		GC				
Communication Studies*:.....	BA					
Dance*:.....	BS, BFA					
Design and Merchandising:.....	BA, BS			MA		
Dispute Resolution:.....		GC		MADR		
Dispute Resolution Joint JD/MADR:.....	JD			MADR		
Film*:.....	BA					
Health Communication:.....		GC				
Journalism*:.....	BA					
Media Arts and Studies*:.....	BA					
Music — Instrumental and Vocal*:.....	BA, BMus		TC	MA, MMus		
Orchestral Studies:.....		GC				
Public Relations*:.....	BA					
Theatre*:.....	BA, BFA			MA, MFA		PhD

**GRADUATE SCHOOL**

Infant Mental Health:.....	GC					
Molecular Biology and Genetics:.....				MS		PhD

**LAW SCHOOL**

Corporate and Finance Law:.....				LLM		
Joint JD/MADR in Dispute Resolution:.....	JD			MADR		
Joint JD/MA in Economics:.....	JD			MA		
Joint JD/MA in History:.....	JD			MA		
Joint JD/MA in Political Science:.....	JD			MA		
Joint JD/MBA:.....	JD			MBA		
Labor and Employment Law:.....				LLM		
Law:.....	JD					
Taxation:.....				LLM		

<i>School/College and Major</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
<b>COLLEGE OF LIBERAL ARTS AND SCIENCES</b>						
Africana Studies:	BA					
Anthropology*:	BA			MA		PhD
Asian Studies*:	BA					
Astronomy	BA					
Audiology:						AuD
Biochemistry and Chemical Biology*:	BS					
Biological Sciences*:	BA, BS			MA, MS		PhD
Biomedical Physics:	BS					
Chemistry*:	BA, BS			MA, MS		PhD
Chicano-Boricua Studies (Co-Major Program):	BA					
Classics*:	BA			MA		
Communication Sciences and Disorders:	BA					PhD
Criminal Justice*:	BS			MS		
Dietetics:	BS	PBC				
Economic Development:		GC				
Economics*:	BA			MA		PhD
Economics: Joint JD/MA:	JD			MA		
Employment and Labor Relations:				MAELR		
English*:	BA			MA		PhD
Environmental Science:	BS					
Film Studies:	BA					
French* (see Romance Languages)						
Geology:	BA, BS			MS		
Gender, Sexuality, and Women's Studies	BA					
German*:	BA			MA		
History*:	BA			MA		PhD
History: Joint JD/MA:	JD			MA		
History/Library & Information Science joint degree:				MA/MLIS		
History/Social Studies Education joint degree:				MA/MEd		
History, World (Graduate Bridge Program):		BGC				
Honors, College (Co-Major):	BA					
Industrial/Organizational Psychology:				MA		
Information Systems Technology:	BA					
International Studies (Co-Major Program):	BA					
Italian (see Romance Languages)						
Labor Studies:	BA					
Language Learning:				MA		
Linguistics:	BA			MA		
Mathematical Statistics:				MA		
Mathematics*:	BA, BS			MA		PhD
Mathematics, Applied:				MA		
Modern Languages:						PhD
Molecular Biotechnology:				MS		
Near Eastern Languages*:	BA			MA		
Near Eastern Studies*:	BA					
Nutrition and Food Science*:	BA, BS			MA, MS		PhD
Philosophy*:	BA			MA		PhD
Physics*:	BA, BS			MA, MS		PhD
Political Science*:	BA			MA		PhD
Political Science: Joint JD/MA:	JD			MA		
Psychology*:	BA, BS			MA		PhD
Public Administration:				MPA		
Public Affairs*:	BPA					
Romance Languages* (French, Italian, or Spanish):	BA			MA		
Slavic Studies:	BA					
Sociology*:	BA			MA		PhD
Spanish (see Romance Languages)						
Speech-Language Pathology:				MA		
Urban Planning:				MUP		
Urban Studies:	BA					

<i>School/College and Major</i>	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>	<i>V</i>	<i>VI</i>
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**SCHOOL OF LIBRARY AND INFORMATION SCIENCE**

Archival Administration:.....	GC					
Arts and Museum Librarianship: .....	GC					
Information Management for Librarians: .....	GC					
Library and Information Science: .....				MLIS.....	SPL	
Library & Information Science/History joint degree: .....				MLIS/MA		
Public Library Services for Children & Adults:.....	GC					
Records and Information Management: .....	GC					
Urban Librarianship.....	GC					

**SCHOOL OF MEDICINE**

Anatomy and Cell Biology: .....				MS.....		PhD
Basic Medical Sciences: .....				MS		
Biochemistry and Molecular Biology: .....				MS.....		PhD
Cancer Biology:.....				MS.....		PhD
Cancer Biology and Clinical and Translational Science, Dual Title degree program: .....						Ph.D.
Clinical and Translational Science: .....		BGC				
Genetic Counseling:.....				MS		
Immunology and Microbiology: .....				MS.....		PhD
Medical Physics: .....						PhD
Medical Research: .....				MS		
Medicine:.....		MD				
Medicine: MD/Phd Joint Degree: .....		MD				PhD
Pathology: .....						PhD
Pediatric Health, Global: .....		GC				
Pharmacology: .....				MS.....		PhD
Physiology: .....				MS.....		PhD
Psychiatry and Behavioral Neurosciences:.....				MS		
Public Health: .....				MPH		
Public Health Practice: .....		GC				
Radiological Physics: .....				MS		
Translational Neuroscience: .....						PhD

**COLLEGE OF NURSING**

Adult Acute Care Nursing:.....				MSN		
Adult Primary Care Nursing: .....				MSN		
Advanced Practice Nursing: Women, Neonates, Children:.....				MSN		
Community Health Nursing: .....				MSN		
Healthcare, Complementary Therapies in .....		GC				
Nurse Midwifery: .....		GC				
Nursing*: .....		BSN				PhD
Nursing Education:.....		GC				
Nursing Practice: .....						DNP
Pediatric Nurse Practitioner - Primary Care .....		GC				
Pediatric Nurse Practitioner - Acute Care .....		GC				
Psychiatric Mental Health Nurse Practitioner:.....		GC.....		MSN		
Transcultural Nursing: .....		GC				
Women's Health Nurse Practitioner .....		GC				



*School/College and Major*

I II III IV V VI

**EUGENE APPLEBAUM COLLEGE OF PHARMACY AND HEALTH SCIENCES**

Analytical Toxicology: .....	GC					
Anesthesia: .....					MS	
Anesthesia, Pediatric: .....	GC					
Clinical Laboratory Science: .....	BS	PBC				
Forensic Investigation: .....		PBC				
Health Sciences: .....	BHS					
Mortuary Science: .....	BS					
Occupational Therapy: .....					MS, MOT	
Pathologists' Assistant*: .....	BS					
Pharmaceutical Sciences: .....				MS		PhD
Pharmaceutical Sciences: PharmD/PhD Joint Degree: .....					PharmD/PhD	
Pharmacy: .....						PharmD
Physical Therapy: .....						DPT
Physician Assistant Studies: .....				MS		
Radiation Therapy Technology: .....	BS					
Radiologic Technology: .....	BS					
Radiologist Assistant Studies: .....				MS		

**SCHOOL OF SOCIAL WORK**

Alcohol and Drug Abuse Studies: .....	GC					
Disabilities: .....	GC					
Gerontology: .....	GC					
Social Welfare Research and Evaluation: .....	GC					
Social Work: .....	BSW				MSW	PhD
Social Work and Infant Mental Health, Dual Title .....					MSW	PhD
Social Work Practice with Families and Couples .....	GC					



# Graduate School Admission

OFFICE OF GRADUATE ADMISSIONS  
Welcome Center, 4th Floor, 42 W. Warren Avenue,  
Detroit MI 48202  
*Telephone:* 313-577-3577; *Fax:* 313-577-0131  
*E-mail:* gradadmissions@wayne.edu  
*Website:* <http://www.gradadmissions.wayne.edu>

The Graduate application fro admission is available at the website.

## Regular Admission

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 Application for Graduate Admission, the graduate application fee (\$50) 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 (see the International Students section, page 20). 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.

## Qualified Admission

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 (MSA/CHE, NEASC, NCA, NASC, SACS, or WASC-Sr.) 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.

## Application Dates, Graduate Admission

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 Admission for complete information.

## Change of Status Admission

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 is downloadable from the Graduate School website: <http://graduateschool.wayne.edu/current/forms.php>

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 Admission, 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.

Depending on previous degrees, applicants may request admission to one of the following Graduate Non-Degree classifications

**1. POST-MASTER'S:** Students holding Wayne State master's degrees should apply for a Change of Status in the Graduate Office of the College they wish to enter.

**2. POST-DOCTORAL:** This rank is reserved for persons holding earned doctoral degrees.

**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 *Gradu-*

*ate Guest Application* from the Graduate Admissions website (<http://www.gradadmissions.wayne.edu>) 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 Admission:** 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 advisers 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.

**Eugene Applebaum College of Pharmacy and Health Sciences:** Undergraduate pharmacy students may register for one of their last two semesters of their fifth year under Senior Rule status.

## '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 fifteen 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 Credits:** Students may elect a minimum of three and a maximum of fifteen 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 for-

warded at the normal point in the formal graduate admission process).

Admission and program requirements are described in the College of Engineering, College of Liberal Arts and Sciences and College of Nursing sections of this bulletin and available in their graduate 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 for further information.

## Wayne State University — University of Windsor Exchange 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 International Programs, Office of the Provost and Senior Vice President for Academic Affairs, 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:

a) 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;

b) 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:

a) **Under no circumstances will credit earned in this status apply toward a graduate degree program.**

b) The applicant must present evidence of a degree earned from an accredited institution (official transcript or diploma).

c) Post-Bachelor status students are not eligible for financial aid from Wayne State University, except if a student is taking prerequisite course work for a graduate program; in the latter case, he/she is eligible for a Stafford Loan for one twelve-month period for a maximum amount not to exceed the equivalent tuition for a first-year undergraduate student.

d) 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.

e) 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 Students

For complete information, see page 45.

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 severely 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 test such as the IELTS.

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 admis-

sion. 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.



# Tuition and Fees

Listed below are the tuition and fees in effect at the time of publication of this Bulletin. Graduate level tuition varies by college and academic program according to the following schedule. **Tuition and Fees are subject to change without notice by action of the Board of Governors.** In accordance with action of the Board of Governors, a portion of these fees is used for operation of the Student Center. Current tuition and fee information is available on our website at: <http://www.reg.wayne.edu/students/tuition.php>

## Graduate Tuition and Fees

*Business Administration, Engineering, and Library Science*

**Resident:** \$595.25 per credit

**Non-Resident:** \$1,215.05 per credit

*Education, Graduate School, Liberal Arts and Sciences, and Social Work*

**Resident:** \$512.85 per credit,

**Non-Resident:** \$1,132.65 per credit

*Eugene Applebaum College of Pharmacy and Health Sciences*

**Resident:** \$583.30 per credit

**Non-Resident:** \$1,196.15 per credit

*Fine, Performing & Communication Arts*

**Resident:** \$529.20

**Non-Resident:** \$1,149.00

*Global Executive Track Doctoral Program in Industrial Engineering*

**Resident:** \$1,151.05

**Non-Resident:** \$1,770.85

*Law School*

**Resident:** \$819.05 per credit

**Non-Resident:** \$900.05 per credit

*MD Program*

**Resident:** \$588.25 per credit

**Non-Resident:** \$1,224.25 per credit

*Medicine: Graduate Programs (excluding MD)*

**Resident:** \$638.85 per credit

**Non-Resident:** \$1,229.70 per credit

*Nursing*

**Resident:** \$932.80 per credit

**Non-Resident:** \$1,552.60 per credit

## Student Fees

**Registration Fee:** There is a \$174.65 non-refundable registration fee, except that students enrolled in the Visitor Program shall pay half of the regular non-refundable registration fee

**Omnibus Fee:** Graduate students are assessed a \$38.25 fee per credit per term. M.D. students are assessed \$26.15 fee per credit.

The Omnibus 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.

**Fitness Center Fee:** Students are assessed a \$25.00 Fitness Center Fee for each term of enrollment. The funds from the fee are used for maintenance of the Fitness Center.

**Application Fees:** Applications for admission to a graduate program shall be accompanied by a \$50.00 non-refundable application fee. The non-refundable application fee for international students (to all programs) is \$50.00. There is no application fee for members of the Alumni Association, their spouses and /or dependent children, and applicants 60 years of age or older, except for applicants to the Law School and School of Medicine.

**Application Fee, School of Medicine:** Persons who have submitted a first application to the School of Medicine through the American Medical College Application Service (AMCAS), and who are asked to submit additional material (secondary application), are required to pay a non-refundable fee of \$30.00 for the processing of the secondary application.

**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.

**Late Registration Fee:** Any student registering after the Priority registration date (as indicated in the Schedule of Classes website: <http://www.classschedule.wayne.edu>) 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.

**Late Payment Fees:** A student who does not satisfy his/her tuition and fee assessment by the prescribed dates on the e-Bill invoices shall be assessed a \$25.00 Late Payment Fee if the past due balance is less than \$500.00, or a \$40.00 Late Payment Fee if the past due balance is \$500.00 or more. Late payment fees will be assessed each term after the tuition cancellation period ends and continue on a monthly basis until the account is paid in full or sent to collections.

**Partial Payment Fee:** Students are expected to pay their full tuition and fee invoices by specified dates, depending upon when they register. A \$20.00 partial payment fee will be assessed on all balances owed as of the last day of late registration.

**Returned Check Fee:** A \$35.00 fee will be assessed to students' accounts for any check and/or ACH check payments returned to the University for any reason. Students who pay off prior term balances with a check returned to the University for non-payment will be de-registered from any classes for which s/he registers after writing the returned check.

**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 noted in the fee column after the course listing on the Schedule of Classes website (<http://www.classschedule.wayne.edu>). The fee is automatically assessed. The fee may be cancelled 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.

**First Professional/Medicine Program Student Support Fee:** Students in the First Professional Medicine Program pay a student support fee. The fee is \$550.00 for students in all years of the MD Program. The fees are used to fund microscope rentals, photocopy expenses, teaching materials, National Board examination fees and other course-related expenses.

**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.

**Music Fees:** Students registering for music courses taken as private lessons pay a fee of \$160.00 for one credit. For three credits, the additional fee is \$320.00. 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.

**Graduation/Certificate Fee:** There is a \$40.00 non-refundable fee for students who apply for a degree or certificate.

**Transcript Fee:** Transcripts are issued free-of-charge, up to ten copies per calendar 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 requested by 3:00 p.m. and mailed out for overnight delivery the next business day.

**Locker Fee:** Students registering for certain activity courses in physical education who wish to use locker facilities are charged a fee.

**Bowling Fee:** Students electing a course in bowling must pay a bowling lane rental fee at the first meeting of class. The fee is non-refundable.

## Payment of Tuition and Fees

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

### 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

Students registering during priority registration period are expected to pay the balance as follows:

FALL SEMESTER - August 15

WINTER SEMESTER - December 15

SPRING/SUMMER SEMESTER - April 15

Students registering during open and late registration are expected to pay the balance in full at the time of registration.

Students who register for short-term courses are required to pay the balance in full at the time of registration.

Students adding credits after the tenth day of the term must pay the additional tuition and fee assessment at the time the credits are added.

Failure to pay the balance in full by the specified due dates or dishonoring payment plan schedules will result in the assessment of monthly "late payment fees" and financial "holds" preventing registration, drop/add, release of official transcripts, diplomas, degrees and other university services.

Please refer to the published eBill Schedule and Payment Due Dates on the Office of University Bursar's web site:

<http://fisops.wayne.edu/bursar/e-bills/eBill-Schedule.php>

**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. Credit card payments can be applied to a student's University account by a third party processor, CASHNet SmartPay. CASHNet SmartPay will assess a convenience fee (2.9%) on all credit card payments. To make a credit card payment log into WSU Pipeline and select credit card payment which will automatically invoke the CASHNet SmartPay process. Discover, MasterCard and American Express cards are accepted.

**Installment Payment Plans (IPP):** Wayne State University has two affiliations which enables it to offer interest free installment payment plans for students on a semester or an annual basis through the following companies:

Academic Management Services (AMS); 1-866-884-8466;

<http://www.tuitionpay.com>

Tuition Management Systems (TMS); 1-800-722-4867;

<http://www.afford.com>

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

**Sponsored Tuition Programs:** 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.

**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. See the Registration Calendar at: <http://reg.wayne.edu/students/registration-calendar.php> for tuition cancellation deadlines.

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.

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 must be paid in advance 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 due date.

**Special Adjustments:** The Registrar is authorized to make adjustments in the application of the policies stated in this section of the Bulletin when unusual circumstances warrant. Examples of circumstances which may warrant special consideration are: serious illness or death of the student or of someone closely related, or mis-advisement by a University representative. Tuition cannot be cancelled for reasons such as changes in work schedule or other employment demands, claim of lack of information, insufficient funds, unawareness of the difference between tuition and student financial aid, undocumented reasons, or reasons that are within the control of the student. Students (or an authorized representative in the case of death or serious illness) who wish to have their requests reviewed should send a completed 'Request for an Exception to Enrollment Policy' application and supporting documentation to Registration and Scheduling, Suite 5101, 5057 Woodward, Detroit, MI 48202 or e-mail materials to [esp@wayne.edu](mailto:esp@wayne.edu).

**Holds on Records:** Initial eligibility to register for classes each semester is based on a student's admission status with the Univer-

sity. 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 transcripts of academic work taken at the University will not be furnished, degree or enrollment certification will not be provided, nor will a diploma be issued.

## Tuition Cancellation

Tuition, not including the non-refundable Registration Fee, may be canceled in accordance with the following schedule when students officially drop classes using the Campus Pipeline on-line portal, by submitting a properly completed Register/Drop/Add form, or by sending a certified letter to Registration and Scheduling, in 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. The Registration Fee will be refunded when students drop all classes during the early priority registration period, as defined in each term's calendar.

Students who officially drop classes before the conclusion of the first two weeks of classes (for the Fall and Winter terms) 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. The registration fee is not subject to cancellation and is non-refundable during the Open and Late Registration periods.

Students who officially drop fifteen-week classes after the second week of classes (for the Fall and Winter terms) are not entitled to any tuition cancellation; however, classes dropped prior to the conclusion of the fourth week of classes do not appear on the students' academic record.

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.

## Residency (State of Michigan)

The following regulations and review procedures are established by Wayne State University for tuition and fee purposes. The University recognizes that a variety of definitions exist for the term 'resident' and applicants are encouraged to give careful attention to these regulations which define residency for University purposes.

### — Regulations

#### PHYSICAL PRESENCE IN MICHIGAN

Generally an individual must document at least six months of continuous physical presence in the State as the first step in establishing eligibility for a residence classification. The six months continuous residence must be completed before the first day of classes for the term in which a residence classification is sought. A minimum of six months physical residence is a first step, but is not the only criterion used in determining residency, and by itself will not qualify a student for resident status. If the six month physical residence is fulfilled while a student is enrolled as a student, it is presumed that a student is primarily here for educational purposes and not to establish domicile. Under limited circumstances (see 4. below) which clearly demonstrate that presence in the State of Michigan is for purposes of employment and not education, an individual may be immediately eligible for a Michigan residence classification, prior to the passage of the minimum six months residence.

#### TEMPORARY ABSENCES

For the purpose of these regulations, the terms "residence" and "domicile" are used interchangeably. In general, domicile is the place where a person actually resides with the intention of making it the person's true, fixed, permanent home, and principle establishment, and to which whenever (s)he is temporarily absent, (s)he has the intention of returning. Full-time attendance at a school outside Michigan and enlistment in a military service may be examples of temporary absences. Other types of absences for more than six months will be presumed to be non-temporary.

#### PRESENCE FOR EDUCATIONAL PURPOSES

The presence in this state of a student from another state or country for the primary purpose of attending school is not residence. It is presumed that a non-resident at the time of his or her enrollment continues in that classification 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 incident to the primary purpose of establishing a domicile. 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 term, within six months after arrival in Michigan, it is normally presumed that the student's sojourn is for the purpose of attending school and not to establish domicile. Applicants must demonstrate that their presence in Michigan is primarily for purposes that are not related to enrollment.

#### FACTORS CONSIDERED IN RESIDENCE CLASSIFICATION

The following facts, although not conclusive, have probative value in support of a claim for residence classification: acceptance of an offer of permanent employment in this state; former residence in the State and the maintenance of significant connections while absent; economic, social compulsion causing a person to abandon a former residence and acquire residence in the State, with attendance at the University only an incident to such residence. Students or their dependents providing verification that their presence in Michigan is the result of a job transfer decision made by an employer are eligible for a waiver of the six-month minimum residence requirement, as described above.

The following facts, standing alone, are not accepted as sufficient evidence of domicile: employment by the University as a fellow,

scholar, assistant, or in any position normally filled by students; a statement of intention to acquire a domicile in this state; voting or registration for voting; the lease of living quarters; payment of local and state taxes; automobile registration; driver's license; continued presence in Michigan during vacation periods.

For purposes of these regulations, the age of majority is eighteen years. A minor does not have the capacity to establish his or her own domicile. Normally, the domicile of a minor follows:

- a) That of the parents or surviving parent; or
- b) That of the parent to whom custody of the minor has been awarded by a divorce or other judicial decree; or
- c) 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
- d) That of an adoptive parent, where there has been a legal adoption, even though the natural parents or parent may be living; or
- e) 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.
- f) 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 (s)he continues to attend school regularly in this state.
- g) Where a general guardian has been appointed by the State of the ward's domicile, at the time of appointment the ward's domicile presumption remains in that State. The appointment by a Michigan court of a resident guardian of a minor not domiciled in this State at the time of appointment has no effect upon the domicile of the ward.
- h) A minor who has permanently left his or her parental home, and who has no reasonable expectation of substantial financial support from his or her parents or legal guardian, etc., may qualify for resident status as if (s) he were of majority age.

#### NON-U.S. CITIZENS

A non-U.S. citizen may apply for resident status in the same manner as a citizen, if (s)he 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. Bureau of Citizenship and Immigration Services of one of the following:

- a) A U.S. permanent resident alien with a green card.
- b) 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 have been issued an Employment Authorization documentation 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 Worker) Approval Notice, or an I-151 or I-551 Notice of Action indicating approval of petition to become an immigrant.
- c) 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.
- d) An alien granted asylum or refugee status.

#### WAIVER OF NON-RESIDENT PORTION OF TUITION:

*Military Service Provisions:* Individuals serving in the U.S. Military and stationed in Michigan and their dependents are eligible for a Michigan residence classification. Stationing orders and proof of relationship (for dependents) must be provided with the application.

*Good Neighbor Residence Provisions:* Residents of Fulton, Lucas, Ottawa, and Williams counties in Ohio, or residents of Ontario, Canada who enroll at Wayne State in eligible programs will have the non-resident portion of their tuition and fees waived. This provision does



not apply to all academic programs. Wayne State University Tuition and Fee Regulations published each academic year identify specific academic programs eligible for this provision.

*Online Program Provisions:* Students enrolled in programs which are offered completely online will have the non-resident portion of their tuition waived. Wayne State University Tuition and Fee Regulations published each academic year will identify the specific academic programs eligible for this provision.

## — Review Procedures

### 1. Initial Classification and Appeal

a) Registering under proper residence and advising the University of changes in circumstances, which might affect residence classification, is the responsibility of the student. Questions concerning a student's residence prior to enrollment should be raised with the Office of Admissions. Questions arising after enrollment should be raised with the Registration and Scheduling.

b) After enrolling student may challenge the initial classification made by the Office of Admissions by filing an Application for Residence Classification with the Registration and Scheduling Office.

c) Except for documented delays caused by University personnel, Applications for Residence Classification must be filed by:

September 30 for the Fall Term and the Medical School Year Term  
January 31 for the Winter Term  
July 31 for the Spring/Summer Term

Deadlines falling on weekends will be extended to the next business day. Applications received after these dates will be processed for the following term.

2. Further Appeal: A student may appeal the Registration and Scheduling Office residence decision as follows:

a) by filing a written notice of appeal with the University Registrar within sixty 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 sixty days shall constitute a waiver of any right to further appeal. The student has the right to consult the University Ombudsman at any time, and the student may particularly want to utilize the Ombudsman's services at this point in the review procedures.

b) 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.

c) A student may appeal the decision of the Office of the General Counsel within fifteen (15) days by filing a written notice of appeal 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.

### 3. Erroneous Classification

a) If an erroneous classification of non-resident occurs, an adjustment for the appropriate period and amount will be made.

b) If an erroneous classification of resident occurs, the students 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 him or her at or before the time of his or her original classification, (s)he shall be required to pay all tuition and fees which would have been charged to him or her and shall be subject also to appropriate discipline in accordance with

University Student Code of Conduct and Due Process policies. If it is determined that there is no such concealment of facts by the student, fees shall be adjusted only for current and future terms.

### 4. Effective Dates of Residence Regulations:

- a) Originally approved by the Board of Governors, November 9, 1979
- b) Amended October 28, 1983
- c) Amended February 12, 1993
- d) Amended November 28, 2007, effective for the Fall Term 2008



# Graduate Financial Assistance

## Office of Student Financial Aid (OSFA)

### Financial Aid, Office of Student

Welcome Center, 42 W. Warren Avenue, P.O. Box 2340,  
Detroit MI. 48202

Telephone: 313-577-3378 or Fax: 313-577-6648

Website: <http://www.finaid.wayne.edu>

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 supply on the Free Application for Federal Student Aid (FAFSA) Provided below are the specific services of this office.

Information concerning scholarships and fellowships administered by The Graduate School is available online: <http://www.grad-school.wayne.edu/index.asp>. To apply for university-wide scholarships, students must complete the online application: <http://www.scholarships.wayne.edu>. Note: Some scholarships have need as a criterion, which requires submission of the FAFSA (see below).

**Service Hours:** Walk-in service is provided at the Enrollment Services counter 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, appointments and walk-in services end at 5:00 p.m. Monday through Friday.

## Types of Financial Aid

Financial aid at Wayne State University is awarded in the form of a 'package,' or combination of aid, and generally consists of four types: grants, scholarships, loans and employment. The amount of financial aid a student may receive can not exceed his/her demonstrated financial need, based on the information provided on his/her application.

**Grants:** Gift assistance that requires no repayment.

**Scholarships:** Gift assistance awarded on the basis of academic achievement or other special ability that requires no repayment. Financial need is a factor for some scholarship awards.

**Loans:** 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. Non-need-based loans are available.

Note: Federal Direct Stafford Loans used to have a component that covered the interest on the loans while the student was in school. Effective 7/1/12 all of these loans will be unsubsidized, so students will have to accrue the interest while attending school.

**Employment:** Work-study programs are on- or off-campus jobs that pay at least the federal hourly minimum wage. Students interested in work-study should carefully read the Student Guide to On-Campus Employment which explains the hiring process and the terms and conditions of employment. The Guide is available from the Office of Career Services, located in Room 1001 of the Faculty/Administration Building, and also online at: <http://www.stuaffrs.wayne.edu/New/StudentEmployment.htm> (click on "Guide to Student On-Campus Employment"). (See Work-Study Payments, page 28)

## Financial Aid Application (FAFSA)

**How and When to Apply for Financial Aid:** To apply for need-based grants, loans, and work-study, students must complete the Free Application for Federal Student Aid (FAFSA). Apply online at <http://www.fafsa.ed.gov> (the U.S. Department of Education (ED), the federal processor, does not distribute the paper FAFSA to institutions. A paper FAFSA can be acquired from the FAFSA website.

If students provide a valid e-mail address on the online FAFSA at <http://www.fafsa.ed.gov>, the federal processor will send an e-mail message within one to five business days containing a secure link to their online Student Aid Report (SAR), which is described below. Approximately fourteen to twenty-one business days after filing the paper FAFSA, the federal processor will mail a SAR to the student. If students provide an e-mail address on the paper FAFSA, and if they have signed their application, they will receive an e-mail message from the federal processor within one to five business days containing a secure link to their online SAR. Students are not required to submit their SAR to OSFA. The FAFSA processor will electronically transmit the SAR data to OSFA if students list the WSU federal code, 002329, on their application..

**Help to Complete the FAFSA:** For assistance in completing the FAFSA, telephone the Federal Student Aid Information Center at 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 is February 15 for fall and winter semesters. The priority date 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. Students may submit the FAFSA after the priority date.

**Spring/Summer Financial Aid Request Priority Date:** A spring/summer Loan Consideration Request Form and Work-study Consideration Request Form are required in addition to the FAFSA. The spring/summer supplemental forms are available on the OSFA Web site, <http://finaid.wayne.edu/aply.sprngsmr.php>, on the first day of spring/summer Priority Registration, see the Registration Calendar, which is on Web site of the Office of the Registrar at: <http://reg.wayne.edu/students/registration-calendar.php>. The priority date for submission of the supplemental forms is the last day of spring/summer Priority Registration, see the Registration Calendar. At WSU, the spring/summer semester is the third term of the school year; a new school year begins each September and ends the following August. Thus, the spring/summer semester is considered a separate and concluding part of the previous fall and winter semesters. (Examples: The spring/summer semester 2012 is part of the 2011-12 school year; the spring/summer semester 2013 is part of the 2012-13 school year.) Note: If the FAFSA has been submitted for the academic year, it is not necessary to submit it again for the spring/summer semester.

## Financial Need: Student Aid Report (SAR)

**Purposes of the Student Aid Report (SAR):** The SAR lists the information reported on the FAFSA. The SAR will either identify the Expected Family Contribution (EFC) or instruct the student to take additional action, which will allow an EFC to be determined. The EFC is a measure of the student's (and his/her spouse's, if married) financial strength; it is used in determining financial need and is a five-digit number (00000-99999). The SAR also indicates whether or not the application has been selected for the verification process, which is explained below.

**How Financial Need Is Determined:** To determine financial need, OSFA subtracts the student's EFC from the average cost of atten-

dance (COA) for his/her program at Wayne State University. COA minus EFC = financial need.

**Verification:** The process by which an educational institution confirms 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 the federal processor selects a student's FAFSA for verification, he/she must: 1) complete and submit a verification worksheet, which the Office of Student Financial Aid will provide, and 2) submit income information to confirm the FAFSA data.

*Note:* If an application is selected for verification, the student must complete the verification process before his/her eligibility for financial aid can be determined, and therefore, before financial aid can be awarded. The priority date for submitting the verification worksheet and income information is May 31. This is the date by which the verification worksheet and income information should be submitted to facilitate determination of eligibility for financial aid before the beginning of the fall semester.

**The Cost of Attendance (COA):** The cost of attendance (COA), which is also called a budget, includes tuition and fees; on-campus room and board or a housing and food allowance for off-campus students; and allowances for books, supplies, transportation, loan fees, and, if applicable, dependent care; costs related to a disability; and miscellaneous expenses. The COA is an *estimated average* and may not reflect any particular student's actual educational expenses.

The COA may be adjusted to include: loan fees (if applicable); dependent care directly related to attendance at Wayne State; costs related to a disability; reasonable costs for eligible study-abroad programs; or an allowance for reasonable costs connected with a student's employment as part of a cooperative education program.

**Michigan Resident Cost of Attendance:** The average projected total cost of attendance for the 2011-2012 academic year is \$25,883 for a Michigan resident graduate student enrolled full-time and not living with his/her parents. The components for this cost are the following:

Tuition and Fees: \$9,978  
Books and Supplies: \$1,100  
Room and Board: \$9,180  
Transportation: \$1,580  
Miscellaneous: \$1,854  
TOTAL: \$25,883

**Out-of-State Cost of Attendance:** The average projected total cost of attendance for the 2011-2012 academic year is \$37,770 for a non-Michigan resident graduate student enrolled full-time. Components for this cost are the following:

Tuition and Fees: \$19,865  
Books and Supplies: \$1,100  
Room and Board: \$9,180  
Transportation: \$2,880  
Miscellaneous: \$2,745  
TOTAL: \$35,770

**Current Tuition and Fees:** Tuition and fees are subject to change by the WSU Board of Governors without notice. The schedule of current tuition and fees is available on the Office of Registrar website: <http://reg.wayne.edu/students/tuition.php>

**Special Circumstances:** 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, which is available on the OSFA Website: <http://finaid.wayne.edu/forms.php>

## Enrollment Criteria for Financial Aid

Students must be enrolled at least half time to be considered eligible for financial aid. At the graduate level, enrollment for eight credits or more is considered full-time; enrollment for four to seven credits is considered half time during the academic year. During the spring/summer semester enrollment for two credits or more is considered full-time; enrollment for one credit is considered half time. Enrollment for 7.5 credits is considered full-time for Ph.D. candidates only (not Ed.D. or other graduate/professional students) who are enrolled in courses numbered 9991, 9992, 9993, and 9994. Ph.D. candidates enrolled in a 9995 zero-credit course are also considered to be enrolled full-time.

## Eligible Programs (Financial Aid)

*Students must be enrolled in an eligible program (one that leads to a degree or certificate) to receive consideration for financial aid funds.*

There are two exceptions to the eligible program requirement:

- 1) enrollment in prerequisite course work to gain admission to an eligible program; and
- 2) enrollment in the teacher certification program. Descriptions of the exceptions are available on the OSFA Website: <http://finaid.wayne.edu/post-bach-student-eligibility.php>

**Exceptions (Additional Eligible Certificate Programs):** There are six programs with the Post-Bachelor's Rank 06 that offer certificates and are not construed as prerequisite to admission to an eligible program. Therefore, students enrolled in the following programs are eligible for financial aid consideration:

- Post-bachelor's Certificate in Accounting
- Post-bachelor's Certificate in Art Education
- Post-bachelor's Certificate in Computer Science
- Post-bachelor's Certificate in Dietetics
- Post-bachelor's Certificate in Clinical Laboratory Science
- Post-bachelor's Certificate in Forensic Investigation

## Programs Ineligible for Financial Aid

Students who are subject to any of the following admission criteria are not eligible for financial aid:

- a) Admission to the University that is granted with status as a 'Guest Student' ([http://apply.wayne.edu/guest\\_students/index.php](http://apply.wayne.edu/guest_students/index.php)).
- b) Admission to a program that does not lead to a degree or certificate and for which neither of the eligible program exceptions stated above applies.
- c) Admission to the University in the English Language Institute, Post-Master's Rank G2, or Post-Bachelor's Rank 06 (excluding the Rank 06 exceptions listed above as 'Exceptions (Eligible Certificate Programs)').

## Other Financial Aid Criteria

**Satisfactory Academic Progress:** To receive financial aid from OSFA, students must maintain satisfactory academic progress. The Satisfactory Academic Progress Policy is available online: <http://finaid.wayne.edu/satisfactory-academic-progress.php>

**Financial Aid Disbursement:** Financial aid (except work-study) is paid in two disbursements if the award is for the academic year. Half of the award is paid in the fall semester and half is paid in the winter semester. One-semester loans have one disbursement. Federal financial aid regulations prohibit financial aid disbursement earlier than ten days before the first day of classes each semester.

**Work-Study Payments:** (See Employment, page 26.) 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:* Only half of an academic year (fall and winter) work-study award can be earned each semester. Students cannot earn the total amount of a work-study award during only one semester. The spring/summer semester is the third term of the school year. Since the spring/summer semester is considered as 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.

**Withdrawal from Classes:** Students are strongly encouraged to discuss with a financial aid administrator the effect that withdrawing from all classes will have on their financial aid. Upon withdrawing from all classes, students who are financial aid recipients must notify the Office of Student Financial Aid immediately.

**Return of Title IV (Federal) Funds Policy:** Financial aid recipients who withdraw from all classes may be required to repay a portion of the federal aid received. Students should consult the Withdrawal and Return of Title IV (Federal) Funds Policy for a detailed explanation of the circumstances for which these federal regulations apply:

[http://finaid.wayne.edu/withdrawal\\_and\\_return\\_of\\_title\\_iv\\_policy\\_0809.pdf](http://finaid.wayne.edu/withdrawal_and_return_of_title_iv_policy_0809.pdf).

## Academic Pathways for Excellence (APEX) TRIO Programs — McNair Scholars

1330 Academic/Administrative Building; 313-577-5050

The Office of Academic Pathways for Excellence provides academic assistance and support services to promising youth and adult learners who have been historically under-represented in higher education due to their economic condition, educational background, or first-generation status.

**Ronald E. McNair Postbaccalaureate Scholars Program:** The Wayne State University Ronald E. McNair Scholars Program is designed to effectively prepare low-income, first generation and underrepresented students for doctoral study. The program provides undergraduate students with research opportunities, graduate record examination preparation, fee waivers, opportunities to publish research, travel to graduate schools and research conferences.

The McNair Scholars Program is committed to maintaining high standards for research and academic achievement. Further information about the McNair Scholars Program can be obtained at <http://www.apex.wayne.edu/mcnair/index.php> or by contacting Mr. Joseph Baynesan, at (313) 577-5050. This program is funded by Division of Student Services, Office of Federal TRIO U.S. Department of Education.

# Records and Registration

## Office of the Registrar

5057 Woodward; Telephone: 313-577-3550, Fax: 313-577-3769  
*Website:* <http://www.reg.wayne.edu/>

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 and Scheduling

313-577-3541; Fax: 313-577-8192  
*Website:* <http://www.reg.wayne.edu/students/registration.php>

Registration is the process of officially enrolling in classes for a particular term. The Class Schedule Website, provided by the Office of the Registrar in advance of each term, lists the days, times and locations for registration and explains registration procedures. Prior to registering, students should review the information at the Schedule of Classes website: <http://classschedule.wayne.edu> Students can build a schedule and register on this site.

A student may not attend any class for which he/she is not officially registered.

**POST-BACHELOR STATUS:** Students wishing graduate credit are cautioned NOT to 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. Credit for courses elected as a post-bachelor student does *not* count toward graduate credit. For Post-Bachelor admission criteria, see page 20.

## Registering for Classes On the Web

Complete instructions for registration appear in the Schedule of Classes, on the Web at <http://wayne.edu/register/>. Additional information and assistance is available from Registration and Scheduling: 313-577-3541 or e-mail [registration@wayne.edu](mailto:registration@wayne.edu). In-person assistance is provided at the Student Service Center, located in the Welcome Center on the corner of Woodward and Warren Avenues.

1. To register on the Web, the student needs to know his/her WSU AccessID and password. For information and help with the AccessID and password, call the Computing and Information Technology Help Desk at 313-577-4778; or e-mail: [helpdesk@wayne.edu](mailto:helpdesk@wayne.edu); or consult the Web: <http://wayne.edu> (click 'WSU Directories', then click 'WSU People Search' and search your 'name').

2. Registration may be done on any computer with access to the World Wide Web.

3. The Web address for registration is <http://pipeline.wayne.edu>. Students should log in using the WSU AccessID and password. Then, successively click on: the Student tab, Registration (from the Student

Services Menu listed on the left); and once inside Registration, follow the prompts on each webpage.

It is highly recommended that students print a copy of their student schedule from WSU Pipeline prior to the beginning of the term. Additional information and assistance is available by calling Registration and Scheduling, 313-577-3541. How-To Videos can be accessed at <http://reg.wayne.edu/videos/index.php>.

## WSU Pipeline

*Website:* <http://pipeline.wayne.edu>

WSU Pipeline is a secure Internet gateway that provides unified access to Wayne State information, services, and computing systems. This comprehensive Web 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 Wayne Connect and the Blackboard Learning System. Using Pipeline, they also have continual access to specific information and helpful tools needed for communication, collaboration, teaching and learning, and University administration. Wayne State applicants are able to track the progress of an admission application through WSU Pipeline. 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 the Pipeline:** Use a current Web browser on any computer connected to the Internet to access WSU Pipeline (<http://pipeline.wayne.edu>) and then log in using a WSU AccessID (e.g., xy6789) and password. As soon as a student applies for admission or an employee is hired, a unique AccessID is automatically created. Instructions on how students and employees can look up an AccessID and find the initial password they need for full access to WSU computing services and resources are on the following Website: <http://computing.wayne.edu/accessid>. Also see page 64.

**Blackboard Courses on the Web:** see page 63.

## STARS Student Tracking Advising Retention System

*Website:* <http://stars.wayne.edu>

STARS is a secure and convenient Web access to students' academic records. WSU students, faculty and advisors can use the convenient online self-service functions to access information in a student's academic record, including academic programs, transfer course equivalencies, test results, registration and course history. There is also a degree audit function that helps students evaluate progress towards completion of their degree program, and select their classes each term.

**Degree Audit:** By clicking on the Degree Audit in STARS in Pipeline, students can review progress toward completing degree requirements for their current degree program by selecting "Generate New Evaluation." They can see how their courses would apply to a different program by selecting the "What If Analysis." Degree Audit presents a detailed analysis of the course requirements for each academic program, including general education, major, minor, and concentration requirements. Also available is a Plan of Work page which students (and advisors) can use to map out the courses that should be taken each term for a specific degree program and major. Students can create multiple plans for taking courses if they are not yet certain which programs to follow.

## 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 should contact the Registration Office 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 who officially drop fifteen-week courses after the second week of classes (for the Fall and Winter terms) are not entitled to any tuition cancellation; however, courses dropped prior to the conclusion of the fourth week of classes do not appear on students' academic records. After the fourth week of classes, courses dropped are considered a — Withdrawal. The Withdrawal will include a notation of 'P' — Passing, 'F' — Failing, or 'N' — Never Attended, beginning in 2006-07.

5. 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.

6. Students are required to submit their withdrawal through Pipeline for their instructors' approval for withdrawals processed after the fourth week of the term. Once logged into Pipeline, click the Student tab, under Registration from the Student Services menu, choose Withdraw from a Class, follow the prompts on each page.

7. 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 calendar and students are notified of the deadline twice during the term. 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 adviser. Some departments have more stringent restrictions on withdrawing from of courses.

## University Grading System

Final grades are available on the campus Pipeline web service (<http://pipeline.wayne.edu>). Grades are not mailed to students.

## Graduate Grades

The graduate grading system is intended to reflect higher standards of critical and creative scholarship than those applied at the undergraduate level. To receive a graduate grade in courses open to both undergraduate and graduate students, the graduate student is expected to do work of superior quality and is required to do any additional work specified by the instructor.

To be awarded a graduate degree, a student must have achieved at least a 'B' (3.0) overall grade point average. Grades of 'B-minus' and below are unsatisfactory for graduate level work. A limited number of 'B-minus', 'C-plus,' or 'C', though unsatisfactory, may be applied toward a graduate degree provided they are offset by a sufficient number of higher grades to maintain a grade point average of 3.0. Grades below 'B' can constitute reason for dismissal from a program at the department or program's discretion. Students should consult with their departments and advisors regarding unsatisfactory grades and their impact on good academic standing. All graduate teaching

assistants and graduate research assistants must maintain a minimum grade point average of 3.0 in order to continue their assistantship appointments. Every effort is made to assist students whose work suffers as a result of a condition beyond their control, or interruption of study for military service.

**Law School and School of Medicine:** This grading system does not apply to Law School students in the J.D. program or students in the four-year M.D. program of the School of Medicine. Students enrolled in those programs should see the appropriate sections of this bulletin and should consult with appropriate Program Directors for more information.

**Final grades for graduate courses** are recorded under the following system.

**A — Excellent:** 4.0 grade points per credit hour

**A-minus:** 3.67 grade points per credit hour

**B-plus:** 3.33 grade points per credit hour

**B — Good:** 3.0 grade points per credit hour

**B-minus:** (Below Graduate Standards) 2.67 grade points per credit hour

**C-plus:** (Below Graduate Standards) 2.33 grade points per credit hour

**C — Below Graduate Standards:** 2.0 grade points per credit hour

**F — Failure:** 0 grade points per credit hour

**M — Marginal Pass** in designated courses such as field work, practicums and internships (not considered in calculation of the grade point average).

**S and U — Satisfactory and Unsatisfactory** performance in non-degree courses and in certain designated courses such as field work, practicums and internships. The grade of 'S' is given for all dissertation credits upon final acceptance of the dissertation in partial fulfillment of the requirements for the Ph.D. and Ed.D. degrees. 'S' and 'U' grades are not considered in the calculation of the grade point average.

## Graduate Marks

### *Effective Fall Term 2006*

**The mark of 'I' (Incomplete),** is given to a graduate 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 wholly 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.** Students may not receive 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. It is a violation of University policy for a student to 'sit in' on a course for which he/she is not registered. 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 'WP' (Withdrawal Passing) 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 reregistered 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. There are no extensions permitted under policy, and the grade shall not be changed once the 'F' is posted.

**The mark of 'WF' (Withdrawal Failing)** is given when the student withdraws from a course in accordance with University policy and the student had earned a failing grade as of the date the withdrawal is approved. The mark of WF does not count towards a student's grade point average.

**The mark of 'WN' (Withdrawal Non-Attendance)** is given to students who did not attend any classes and/or did not complete any assignments and/or did not participate in credit-earning activities by the withdrawal date. The mark of WN does not count towards a student's grade point average.

**The mark of 'WP' (Withdrawal Passing)** is given when the student withdraws from a course in accordance with University policy and the student had earned a passing grade as of the date the withdrawal is approved. The mark of WP does not count towards a student's grade point average.

**The mark of 'Y' (Deferred)** 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).

**The mark of 'Z' (Audit)** 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.

**The mark of 'NR' (Not Reported)** is a non-punitive mark posted automatically when there has been no grade reported by the instructor.

## Change of Grade and Mark

Once recorded in the Office of the Registrar, grades/marks will be changed only if the instructor posts the grade change in the online grade/mark change system in Pipeline. Most changes must be posted within one calendar year. (Deferred (Y) grades are the exception.) Failure grades that are posted as a result of a student not completing an incomplete course may not be changed. After a degree has been awarded, the grades associated with that degree may not be changed. Other change of grades or marks older than a year must be approved by the department chair and the Associate Dean of the school or college that offered the course.

## Credits

A credit (credit hour) is defined as one class hour per week or its approved equivalent requiring a minimum of two hours of preparation per week carried through a semester. A credit in other modes of instruction should be made as consistent as possible with the above definition.

**Laboratory:** A three-hour laboratory period is normally regarded as the equivalent of one class hour.

## 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 exam-

ple, 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.

## 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 out overnight.

Students may request transcripts via Pipeline: <http://pipeline.wayne.edu> (using their Access ID). A transcript may also be requested by postal mail, by faxing a request to 313-577-0945, or in person. Due to the signature requirement for releasing educational records, the University cannot accept telephone requests for transcripts. Requests by postal mail should be addressed to: Wayne State University Student Records, Attn: Transcripts, 5057 Woodward Avenue, Suite 4101, Detroit, MI 48202.

To ensure prompt attention, the student should include his/her name (including name while in attendance, if different), student identification number, social security number, date of birth, last term of attendance, his/her authorizing signature, and the name and address to which the transcript is to be sent. 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.

## 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 Non-Attendance), 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.

## 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 (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. Additional information about student rights under FERPA can be found at <http://reg.wayne.edu/students/privacy.php>

## Student Directory Information

Effective Winter Term 2000, Wayne State University policy permits the release of certain Student Directory information. The specific items are: name, address, telephone number, age (or date of birth), major, level, degrees received, previous institutions attended, honors, awards, e-mail addresses, participation in sports or student activities, and height and weight for members of athletic teams.

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 and on the Office website: <http://reg.wayne.edu/>.

## Student ID (WSU OneCard)

42 W. Warren, Room, 257; 313-577-CARD

Website: <http://www.onecard.wayne.edu/>

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 students with access to a wide variety of campus services. It serves as the Library Card for WSU Libraries. The WSU OneCard offers a 'cashless' environment to its cardholders by debiting funds from their account. The card can be used for parking, door access, copying and printing services, as well as food and bookstore purchases. Students may obtain the OneCard from OneCard-Parking Service Center located in the Welcome Center, 42 W. Warren Ave., Suite 257, 8:30 a.m. – 5:00 p.m. Monday through Friday.

Funds may be added to the OneCard with a check or money order at the OneCard-Parking Service Center, via WSU Pipeline (<https://lumprod.wayne.edu/cp/home/displaylogin>) with a credit card or at one of the Cash System Value Terminals located in the following University buildings: Eugene Applebaum College of Pharmacy and Health Sciences Building, G. Flint Purdy Library, Science and Engineering Library, Student Center Building, Scott Hall, State Hall, David Adamany Undergraduate Library, University Tower Apartments, Law School Library, Matthaei Building, Ghafari Hall, Oakland Center, Welcome Center, Helen L. DeRoy Apartments, The Towers Residential Suites and WSU Bookstore.



# .Academic Regulations

Continuance in graduate status is contingent upon the student keeping informed of all rules, regulations and requirements and complying with all official procedures of the Graduate School, the individual college or school and department. The student is responsible for fulfilling all course and degree requirements in proper sequence with satisfactory scholarship. In case of doubt regarding any matter affecting his/her standing as a graduate student, the student should consult with his/her advisor. The primary responsibility of keeping informed of policy and procedures rests with the student. Regulations contained herein should not be construed as exhaustive.

## Normal Program Load

A full-time graduate student is one who is enrolled for eight or more credits during academic-year semesters; a graduate student is considered full-time during the spring/summer term if she/he enrolls for at least two credits. The definition of normal course load will vary depending upon the requirements of each program.

## 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.

## Undergraduates Registering for Graduate Courses

Highly qualified undergraduate students may, under special circumstances, take a 7000-level course for undergraduate credit only. Such students should seek approval to register through the Dean's Office of their school or college. (See also: 'Under the Senior Rule,' below.)

## Dual Enrollment

**Graduates registering for Undergraduate Courses:** Graduate students may take undergraduate courses to be recorded on an undergraduate transcript. This is often done to satisfy prerequisites not completed at the undergraduate level. Fees are assessed at the graduate level for all courses.

**Under the Senior Rule:** 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 advisers 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, see Senior Rule Admission, page 19.

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.

**Dual Enrollment with 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.

## Retaking Courses

**Graduate Students:** A graduate program may, if it wishes, allow a student to retake a graduate course in which the student earned a grade of 'B-minus' or lower. This prerogative is exercised by the program through the use of the override provisions in the University's registration system which will prevent students from independently retaking courses. The number of courses and the number times a course may be retaken is determined by the program. The original grade for the course will remain on the student's transcript, but only the final grade received in retaking of the course will be used in computation of the student's grade point average. Students will not receive University financial aid for courses that are retaken. It is the student's responsibility to be apprised of his/her program's repeat policy.

**School of Business Administration:** 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 School of Business Administration.

**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—Faculty of Health Sciences:** No course may be retaken without the consent of the advisor(s) delegated for each professional curriculum.

## Credit by Examination

A student wishing to obtain credit toward an advanced degree for knowledge essential to his/her program of study, acquired by means precluding formal transfer to Wayne State University, may petition for an advanced credit examination in a course or courses covering the relevant area of study. The petition requesting such advanced credit shall state the basis for the request in terms of the student's competence at the graduate level in the particular academic area. The established examination fee must be paid before the examination is



taken. All grades will be recorded on the student's transcript. Such grades will not be used in computing the grade point average. The fulfillment of any requirement through credit by examination does not relieve the student of the residence requirement for degree.

## Graduate Courses

Graduate work is classified either as course work, in which students meet as an assembled group, or as research. Generally, courses numbered 5000 and above may be considered graduate level; in some departments, certain 5000- and 6000-level courses are not permitted for graduate credit and are so designated. Courses numbered 7000 and above are open only to graduate students.

**Directed Study:** Independent study may be authorized provided the area of interest is an integral part of the student's graduate program and is not covered by courses scheduled while completing one's course requirements. Before a Ph.D. student may register in directed study, he/she must complete the Ph.D. directed study petition form, *Doctor of Philosophy Petition and Authorization for Directed Study*, and obtain the written permission of his/her department's graduate director. The petition must contain information about the nature, scope, and significance of the course, and indicate the major requirements the student must fulfill. Master's students must provide the same information and obtain the written permission of their college/school Graduate Officer.

**Business Administration:** All courses numbered 6000-6100 and 7000 or higher are open *only* to students formally admitted to a Wayne State graduate program, or to qualified guest students. Enrollment in these courses must be approved by a graduate advisor or be consistent with a student's Plan of Work. Students in an undergraduate, post-bachelor, or non-matriculated status are not eligible.

**Law School:** In addition to the above approvals, graduate students must obtain the written permission of the Law School Dean to elect Law School courses or directed studies.

## Graduate Credits

For definition of Credit (Credit Hour), see page 30.

**Major credits:** credits earned in the student's major field are designated as major credits. The dissertation, thesis, or essay must be in the major field.

**Minor credits:** credits earned in departments other than the major are classified as minor or cognate credits. Election of minor credit is encouraged to enable the student to broaden his/her program. In doctoral programs, minor courses should be related to the major and six or more graduate credits approved by the unit graduate director will constitute a minor.

## Transfer of Credits — Graduate

In work toward the master's degree, credit beyond the twenty-four credits which must be earned in residence may be transferred from accredited graduate schools, provided such credit is 'B' or better and certified as graduate-level credit on an official transcript. Departments and schools/colleges may further restrict the number of credits that may be transferred. A student wishing to transfer graduate credit toward the Ph.D. degree must file a petition with the Graduate School, approved by his/her advisor and departmental graduate director, requesting such transfer. The petition must be supported by an official transcript showing a minimum grade of 'B' for the courses to be transferred; 'B-minus' and credit earned with 'S' and 'P' (satisfactory or pass) grades are not acceptable for transfer. Transfer credits must be appropriate to the student's degree program. Doctoral dissertation credits will not be transferred. Courses accepted for transfer credit from outside or within Wayne State University cannot have provided credit toward a prior degree except when the master's or another pre-doctoral certificate or degree is applied to the doctoral degree. Admission to Wayne State University based upon a previ-

ously earned master's degree *does not* guarantee that those credits are applicable to a graduate degree at Wayne State University.

**Extension Credits** earned at other than Michigan institutions cannot be applied toward a graduate degree nor an education specialist certificate.

**School of Business Administration:** A maximum of six semester credits (two courses) may be transferred from other graduate institutions.

## Maximum Credit Load

A student with a strong academic record who is devoting full-time to graduate study may register for a maximum of *sixteen credits per semester*. Graduate Assistants are required to register for at least six credits each semester. The University considers a program of eight graduate credits per academic-year semester and two credits per spring/summer semester to be full-time study.

## Short-Term and Travel-Study Courses for Graduate Credit

Short-Term, Workshop-Institute-Conference, and Travel-Study courses offered for graduate credit must be proposed, approved and authorized well in advance via the appropriate form (obtainable from the Graduate School). After an initial authorization, courses to be repeated with no substantial change may be petitioned and approved by memorandum on the basis of the original on file.

**Short-Term Courses** are those created or adapted to meet for a time period of less than one-half an academic semester— i.e., less than 7-1/2 weeks. Such courses offered for graduate credit will provide for at least fifteen contact hours and the requisite proportion of outside preparation for *each* hour of credit. It is assumed that short-term courses will not differ from regular fifteen-week courses in terms of objectives, content, contact hours, or academic expectations, unless such a difference is reflected by a proportioning of graduate credits.

**Workshop-Institute-Conference Courses (WIC)** are those specially formulated experiences which, because of their usually 'applied' nature, lend themselves to an exceptionally brief but intensive time span. They differ from short-term courses in their concentration, usually spanning from a single day to two or three weekends. Offered for graduate credit, these courses provide for a minimum of twenty-five contact hours and an appropriate proportion of additional work for *each* hour of credit. Since these experiences vary greatly in their purposes and the degree of participation expected of the student, they are offered for credit only infrequently and enroll only those students for whose academic programs they would be directly relevant. Graduate grading will be on an 'S' and 'U' basis only.

**Travel-Study Courses** are those created or adapted to take special advantage of the opportunity to relate a particular course of study to the cultures, mores, or institutions studied. Such courses may involve either domestic or foreign travel. All are offered through the Educational Outreach Division. Graduate credit for travel-study courses will be graded on an 'S' and 'U' basis only.

**CREDIT RESTRICTIONS:** Graduate students may not register for any course or combination of courses in these categories that permit the accumulation of graduate credits at a rate greater than one credit hour per week. Registrations that exceed this rate will be canceled in advance if discovered and, in no case will the excess credit be counted toward the requirements for a Wayne State graduate degree.

## Obligations of Faculty and Students 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, religion, political belief, country of origin, sex, sexual preference, age, marital status, or handicap;
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

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). This policy shall be applicable to all courses within the University, regardless of setting.

## Deception, 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.

## 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.

## 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 at <http://www.doso.wayne.edu/codeofconduct.pdf> or in the Dean of Students Office, 351 Student Center.

## College/School Grade Appeal Procedures

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 Provost to review that decision on the record. A written Request for a Provost Review must be made by the student himself/herself, with a copy to the Dean of the College, postmarked 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 Request for a Provost Review should outline any additional arguments the student wishes to be taken into consideration by the Provost's review. The Provost's review of the College's decision will proceed as soon as practicable 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 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 school days after receiving the request. Exceptions to this procedure may be granted by the Provost upon a showing of good and sufficient cause.

## Academic Scholarship

A graduate degree is evidence of scholarly attainment; of ability to achieve academic excellence; of critical and creative ability with capacity to apply and to interpret what has been learned through research, the essay, the thesis, or the dissertation and the several examinations; of ethics in use of the work of others and in interpersonal relationships. See Graduate Grades, page 29.

## Student 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

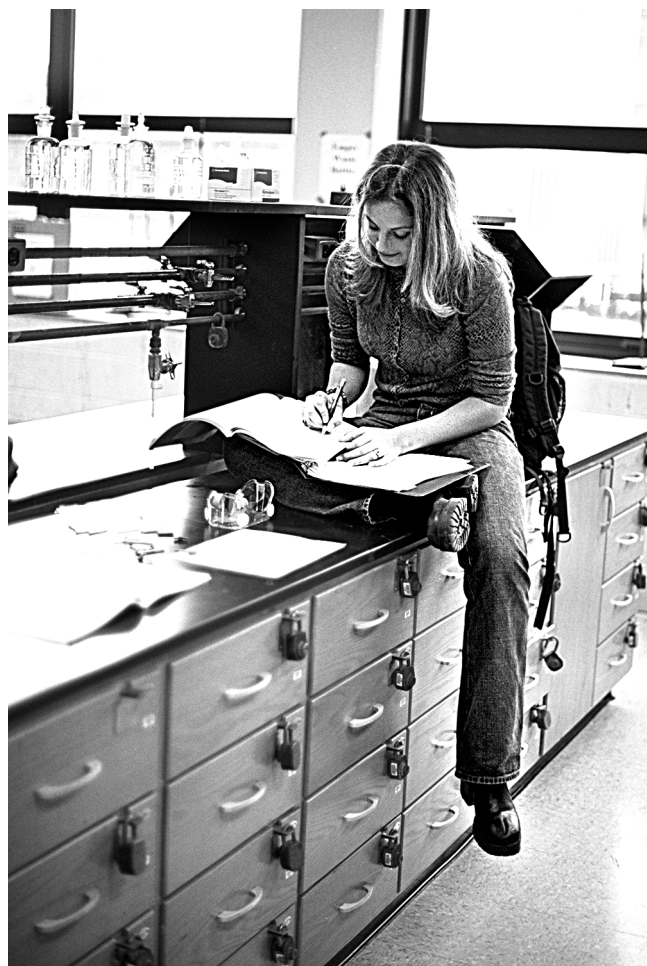
## Academic Nepotism

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.

## 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.

**Media Relations Office**, 3100 Academic/Administrative Building, is designated as the Office responsible for accepting requests for public records, and the Director of that office is the University officer in charge of providing this service. Under the 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.



# Degree and Certificate Requirements

## Degree Programs

### Graduate Certificate and Bridge Graduate Certificate Programs

Programs leading to Graduate Certificates and to Bridge Graduate Certificates are available through several University units and are open to students who meet the general graduate admission requirements of the University; individual programs may have additional admissions requirements. The specific number of credits required for completion varies by program, though Certificate programs must consist of at least twelve graduate credits.

**Graduate Certificates** may be earned independently of or concurrently with a graduate degree. A Graduate Certificate program must be completed within three years, a minimum grade point average of 3.0 in certificate courses must be maintained, and only nine semester credits of certificate course work may be applied toward a graduate degree.

**Bridge Graduate Certificates** are certificate programs designed to provide students with specialized knowledge that may subsequently be applied toward the requirements of a designated Master's degree and may be viewed as transitional to a Master's program. The program is for students who hold at least a baccalaureate degree and are admissible to graduate studies.

The Bridge Graduate Certificates are generally housed in the same unit as the Master's program that proposes it. The Certificate program consists of at least twelve graduate-level credits be completed within three years and a minimum grade point average of 3.0. No transfer credits are accepted into a Bridge program. The curriculum consists of courses from the corresponding Master's program. All courses in the Bridge Certificate may be applied toward the requirements of the designated Master's degree, given that they meet the approval of the Master's program and the six-year time limit for Master's degrees. For specific certificate requirements interested students should consult the specific certificate program descriptions in this Bulletin or contact the sponsoring department.

### Dual-Title Graduate Degrees

A dual-title degree program is designed to provide additional valuable course work not prescribed in an existing major program. The dual-title degree program consists of two components: an area of study, in which there are graduate course offerings and faculty strength but no graduate degree program, and one or more major degree programs that adopts the area of study and integrates its content into the coursework and progressive stages of the major program, including the Qualifying Examination, thesis and dissertation. The dual-title areas of study are not available as separate graduate degree programs.

Potential dual-title areas of study typically are interdisciplinary with courses and faculty housed in various departments. When incorporated into an existing program, they provide students with knowledge and skills graduates of traditional programs do not have. Dual-title areas often exist in new and emerging fields, generally where the most significant advances in research occur. The addition of a dual-title area to an existing degree program enables graduates to acquire the most current knowledge and up-to-date research skills beneficial to the major program.

## Joint Degrees

A joint degree program is a formally approved and authorized program between two cooperating graduate or graduate and professional programs that permits the use of a limited number of credits to fulfill requirements in both programs. The joint degree programs offer exceptionally talented students the opportunity to acquire expertise and knowledge in a shorter time than is possible by completing two separate degrees in sequence.

## MASTER'S DEGREE

In addition to the following regulations, requirements may be specified by the individual graduate departments.

The minimum Graduate School requirement for the master's degree is thirty credits, at least twenty-four of which must be taken at the University. In those master's degree programs where the college, school or department requires more than the Graduate School minimum, their requirements take precedence. The Graduate School recognizes three general master's degree plans, though not all plans are offered in each department (for exact information, see listings under individual departments in the appropriate sections of this bulletin):

**PLAN A** requires a total of thirty credits, including a total of eight credits for a thesis (some departments require less).

**PLAN B** requires a total of thirty credits, including a minimum of two credits for an essay.

**PLAN C** requires a total of thirty credits. The essay or thesis is not required.

## Candidacy for Master's Degree

*Admission as an applicant does not assure acceptance as a candidate for a degree.* Candidacy is a necessary but not sufficient requirement for graduation.

Generally, students enrolled in master's degree programs are expected to file a Plan of Work by the time eight to twelve graduate credits have been earned. The applicant shall be advanced to the rank of 'Candidate' upon approval of the Plan of Work by the College Graduate Office. In most colleges candidacy must be authorized by the time twelve graduate credits have been earned or subsequent registration will be denied. In preparing the Plan, the student and advisor should evaluate with care the personal and professional objectives of the student as well as all degree and departmental requirements.

## Essays

Under Plan B, students are required to complete an essay prior to the granting of a master's degree. The essay must show evidence of scholarly study and writing and be related to the student's major. Students should consult their departments regarding any additional requirements for essays, as well as for correct essay manuscript style.

## Theses

Under Plan A, departments require the completion of a thesis prior to the granting of a master's degree. The thesis may be of a research, expository or critical nature and should be selected and planned with care. It must be an original work, in or related to the student's major field of specialization. Work submitted for credit in other courses cannot be used in fulfilling thesis requirements. Neither the results of the research nor the publication of findings may be restricted by any non-University agency. The results of the research may be published prior to submission and acceptance of the thesis, with the approval of the thesis advisor.

The presentation of a thesis generally brings to a close the pursuit of the master's degree. In essence such manuscripts represent a tangible summation of the many hours spent in study and research to acquire a higher education. For this reason such scholarly documents must evidence only the highest standards of research and writing. They must show consistency in punctuation, style and format. For format requirements and format templates, see the Graduate School website: <http://www.gradschool.wayne.edu/>

Advisors have primary responsibility for approval of the thesis. Such approval includes all academic and professional evaluations and judgments as to originality, adequacy, accuracy, significance, methodology, justification or conclusions and correctness of style. Approval shall not be recorded until the work and manuscripts are fully verified and accepted.

## Additional Essay or Thesis Elections and Fee Policy

A master's student who has enrolled for all elections (including essay or thesis) stipulated by his/her Plan of Work, and who has completed all the requirements of these elections, but has not completed the essay or thesis, will be required to register for at least one credit (the appropriate amount to be determined by the department) of essay or thesis direction until such time as the student:

- a) completes the requirements for the degree;
- b) declares him/herself no longer a candidate for the degree; or
- c) exceeds the time limit allotted for securing the degree.

For these credits, the student will pay customary fees and will register as an auditor. No degree credit will be granted for these elections which are beyond the required credits for an essay or thesis. A mark of 'Z' (Auditor) will be recorded on the student's record for additional elections.

College of Nursing: The additional elections and fee policy also applies to field studies and research practicums.

## Time Limitation for Master's Degree

Students have a six-year time limit to complete all requirements for the master's degree. The six-year period begins with the end of the semester during which the student has taken work which applies toward meeting the requirements of the degree. The individual college or school reserves the right of revalidation of over-age credits which are between six and ten years old and which represent courses completed at Wayne State University. Such authority rests with the Graduate Officer of the college or school. Students are not permitted to revalidate credits earned at other institutions. In revalidation cases the advisor and the student must set a terminal date for completion of all degree requirements, including such additional requirements as may be prescribed to revalidate the over-age credits. Time extensions beyond these conditions are authorized only for conditions clearly beyond the student's control.

A student registered in a non-degree graduate classification is cautioned that only one semester of full-time graduate study, or part-time registration not to exceed nine credits, is permitted in this classification. Not more than nine credits may be applied toward the credit requirements for the master's degree.

Please see the appropriate school and college sections of this bulletin for specific master's program information.

## DOCTOR OF PHILOSOPHY DEGREE

In addition to the following regulations, requirements may be specified by the individual graduate departments.

Requirements for the degree of Doctor of Philosophy emphasize an overall understanding of and high competence in a field of knowl-

edge, familiarity with cognate disciplines, facility in the use of research techniques, and responsibility for the advancement of knowledge. The meeting of the requirements for the doctorate is tested primarily by examinations and the presentation of the dissertation rather than by a summation of courses, grades and credits.

## Admission to Ph.D. Program

A student may be admitted to the status of Ph.D. applicant if he/she meets all Graduate School requirements for admission, presents a grade point average of 3.0 ('B'=3) for the upper division of the undergraduate course work and is accepted for study toward the degree by his or her school or college and major department. Additional requirements (e.g., letters of recommendation, undergraduate research experience, personal interview, specific coursework, service learning) are specified by departments and programs. Students presenting less than a 3.0 undergraduate grade point average are required to complete a master's degree program, or its equivalent, prior to consideration for admission to a Ph.D. program.

## Initial Advising

An advisor is assigned to the student at the beginning of his/her program and represents the Department in helping plan the student's program. The advisor provides academic guidance, approves required documents and monitors student progress. The initial advisor serves until the time the student identifies a dissertation director, who then assumes advising responsibilities.

## Graduate Faculty and Ph.D. Student Responsibilities

Course work and research leading to the doctoral degree is a matter of shared responsibilities between faculty members and Ph.D. students. The Graduate Council has established the following reciprocal obligations:

*Ph.D. program faculty are responsible for:*

1. Admitting qualified students whose research interests can be accommodated within those of the program.
2. Ensuring that students receive competent and sustained advising from their entry into the program until degree requirements are completed or the student is separated from the program.
3. Monitoring and evaluating student progress toward the degree and for communicating the results of the evaluation to the student on an annual basis.
4. Assisting students in locating potential dissertation directors.
5. Offering guidance and instruction in those research areas in which they have expertise. To this end individual faculty members are responsible for deciding whether or not to serve as a dissertation director for any given student. This responsibility rests solely with the faculty, who are expected to make decisions based on reasonable academic criteria.

*Ph.D. program students are responsible for:*

1. Identifying research areas in which the Ph.D. program can provide guidance. The selection of a research area outside these areas may cause difficulty in achieving the degree.
2. Maintaining good standing throughout the doctoral program and making normal progress toward the degree.
3. Requesting that an individual member of the faculty serve as the dissertation director, working with the dissertation director toward timely completion of degree requirements, and complying with the dissertation director's instructions.

## Ph.D. Procedural Calendar

The stages of the Ph.D. degree are outlined below. The section following describes these stages in detail. Necessary forms and additional instructions and requirements may be found on the Graduate School website: [website: http://www.gradschool.wayne.edu/](http://www.gradschool.wayne.edu/)

**1. Plan of Work:** Initiated by the student and completed with his/her advisor to plan the sequence of study. An approved Plan is a requirement for Ph.D. Candidacy.

**2. Ph.D. Coursework:** Ninety graduate credits beyond the baccalaureate degree are required. Completion of about fifty credits of coursework is a requirement for Ph.D. Candidacy.

**3. Annual Review:** The student's department prepares a review of the student's progress at the end of each academic year.

**4. Qualifying Examination:** The qualifying examination contains a written portion and may include an oral component. Successful completion of the qualifying examination is a requirement for Ph.D. Candidacy.

**5. Dissertation advisory Committee:** The naming of a dissertation advisory committee is a requirement for Ph.D. Candidacy.

**6. Candidacy:** Ph.D. Candidacy begins the dissertation preparation phase of the degree.

**7. Dissertation Registration:** Four consecutive academic-year semesters of registration as a degree candidate are required during the preparation of the dissertation.

**8. Oral Examination:** An oral examination is required of all Ph.D. students. It may be addressed as part of the qualifying examination, a prospectus meeting, a lecture or seminar, or another format approved by the student's department.

**9. Dissertation Prospectus:** After attaining Candidacy, the student prepares a description of the proposed research and dissertation for approval by his/her advisory Committee.

**10. Dissertation Preparation:** The dissertation presents the original scholarship or research completed by the student.

**11. Dissertation Public Lecture-Presentation Defense:** The student presents and defends the dissertation in a public lecture.

**12. Submission of approved dissertation:** The student must submit the approved dissertation electronically. See <http://gradschool.wayne.edu/phd-info/defense.php>

## Plan of Work

This planning document, which is developed by the student and the advisor, should include both course and non-course objectives. An interim Plan of Work, to be retained in the department, should be developed by the end of the student's first year and updated annually. The final Plan of Work requires the signatures of both the advisor and the departmental Graduate Director prior to submission to the Graduate School for approval. The final Plan of Work may be filed with the Graduate School at any time; however, it must be submitted before forty credits have been completed and before the qualifying examination is scheduled.

## Ph.D. Coursework

To ensure adequate preparation, the Graduate Council has adopted minimum coursework requirements for the University's highest degree. Many programs will exceed these minima.

A minimum of ninety graduate credits beyond the baccalaureate degree is required for completion of the Ph.D. program. A Ph.D. program will consist of:

(1) at least twelve credits of coursework in the major (not including directed study or research credit);

(2) sufficient additional coursework to total sixty credits (major and minor coursework, pre-dissertation research and directed study); and

(3) thirty credits earned in four consecutive Candidate Status semesters after candidacy has been approved.

The Ph.D. program should provide for effective concentration in a major field with supporting courses in related fields. The decision concerning whether the student's Plan of Work will include a minor is made by the department.

The total Ph.D. program must include thirty credits, excluding Candidate Status semesters, in courses open only to graduate students (i.e., 7000 level or above).

**DIRECTED STUDY:** Registration in directed study must have advance approval of the student's advisor and advance authorization of the student's department. A Graduate School Petition and Authorization for Directed Study must be signed by the student's advisor, instructor, and the Graduate Director of the department before registration. The Directed Study Petition must contain all relevant details, including an explicit course outline, a rationale for the course, and information about the major academic requirements the student must successfully fulfill.

## Ph.D. Pre-Candidacy Mandatory Enrollment

During the pre-candidacy stage, registration is required in all semesters in which the Ph.D. student uses University resources, including the semester(s) in which the Qualifying Examination is taken. The student must register for a minimum of one graduate credit.

## Annual Reviews

All Ph.D. students are required to receive an annual review of the student's progress toward completion of degree requirements. The student's progress in course work, scholarship, teaching, and all other academic or professional areas defined by the department will be summarized and communicated to the student in writing. The annual review must be signed by the student, advisor, and departmental Graduate Director. The annual review is filed in the student's department.

## Ph.D. Qualifying Examination

The Qualifying Examination covers the student's primary areas of study and research, as well as such related matters as the qualifying examining committee may prescribe. The Qualifying Exam must contain a written component; an oral component (described later) is optional.

The Qualifying Examining Committee must consist minimally of three members, two of which must be from the major department, and at least two must hold Regular Graduate Faculty appointments. An external member may be added at the discretion of the department. In this latter instance, the department is encouraged to select a person from the student's minor/cognate area. The membership of this committee may not normally be changed until the Qualifying Examination(s) (written or written and oral, as required) have been passed.

If the written component of the Qualifying Examination is not completed successfully at the first administration, the examination may be repeated only once. A second examination may not be held until at least one semester has elapsed, but must be held within one calendar year following the first examination. The same examining committee must preside over both examinations. The second written examination will be considered final.

The student's examining committee will select one of its members to serve as the Graduate Examiner. The results of the oral qualifying examination are to be communicated to the Graduate School via the Report on Doctor of Philosophy Oral Examination form.

If the Graduate Examiner certifies that the applicant has not passed all parts of the oral examination, the committee may recommend that a second oral examination be held. If a second oral examination is recommended, the committee must specify any additional work the student must complete prior to that examination. A second examination may not be held until at least four months have elapsed, but must be held within one calendar year following the first examination. The second oral examination shall be considered final.

## Dissertation Advisory Committee

The dissertation advisory committee shall consist minimally of four members. If there are co-chairs, the committee shall consist of five members. At least two committee members shall be from the student's home department/program, and at least two shall hold Regular Graduate Faculty appointments. The committee chair shall hold a Regular Graduate Faculty appointment in the home unit, and if there are co-chairs, at least the one from the home unit shall hold a Regular Graduate Faculty appointment. The committee shall have at least one external member who broadens the dissertation committee beyond the home program to represent a different perspective by virtue of his/her field, location or knowledge application; who does not hold any salaried or contractual appointment, tenure line or retreat rights in the home program; and, who is familiar with the standards for doctoral research. The expertise of the extra-departmental member must be appropriate to the student's dissertation work. The dissertation director and advisory committee should be identified as early as possible, and by the time course work is completed at the latest. The dissertation advisory committee membership must be submitted to the Graduate School as a condition for attaining candidacy. The committee membership may be changed up to the time the dissertation prospectus is submitted. After Graduate School approval of the dissertation prospectus, any changes in committee membership will require written justification.

## Candidacy for Ph.D. Degree

A Ph.D. applicant will be advanced to the rank of Ph.D. Candidate by the Graduate School upon the recommendation of the department and completion of the following requirements: 1) Approval of the Plan of Work by the Graduate School; 2) completion of didactic course work, or approximately fifty credits, as required by the Plan of Work; 3) satisfactory completion of the Qualifying Examination(s); 4) identification of the membership of the student's dissertation advisory committee. (The advisory Committee membership may be changed prior to submission of an approved prospectus to the Graduate School.) The department shall submit the Recommendation for Doctor of Philosophy Candidacy Status form to the Graduate School to recommend advancing the student to degree Candidacy.

## Dissertation Registration

The Doctor of Philosophy degree requires that students register for Candidate Status during the preparation of the dissertation: Doctoral Dissertation Research and Direction I, II, III, and IV (courses numbered 9991, 9992, 9993, and 9994 offered under various subject area codes, respectively), in consecutive academic year semesters. Registration for these four Candidate Status courses equates to thirty credits. If a student has registered for all four Candidate Status courses but has not completed the dissertation requirements, the student may register in Candidate Maintenance status (9995) until the requirements are completed, the time limit for the degree is reached, or the students withdraws from the program. Registration in Candidate Maintenance Status is required in all semesters in which the student uses University resources, including the semester in which the student defends the dissertation. The Candidate Maintenance fee is equivalent to the Registration Fee plus the Omnibus Fee for one graduate credit and confers full-time registration status.

## Dissertation Prospectus and Approval

Prior to initiating doctoral research, the Ph.D. Candidate must prepare a prospectus of the proposed dissertation research. In some departments, oral presentation of the prospectus constitutes the required Oral Examination. The student must submit the Doctoral Dissertation: Prospectus and Record of Approval form with the prospectus. The prospectus and form must be approved by the dissertation advisory committee and the departmental Graduate Director, before being forwarded to the Graduate School for approval.

## Oral Examination

Successful completion of an Oral Examination is a requirement for the Ph.D. degree. The Oral Examination may be administered as part of the Qualifying Examination (see previous discussion of Qualifying Examination), or as part of the prospectus meeting, or a lecture, or in some other departmentally-approved format in which the student presents information orally and answers questions posed by the student's committee. The committee for the Oral Examination must be composed of minimally three members, two must be from the student's department; a member outside the department, is optional. The members of the Oral Examination committee may also serve as the student's dissertation advisory committee, but this is not required. At least two members must hold Regular Graduate Faculty appointment status. If the Oral Examination is part of the prospectus meeting, the results of the Exam are to be reported to the Graduate School via the Doctoral Dissertation: Prospectus and Record of Approval form. The results of the Oral Examination administered in all other contexts should be reported to the Graduate School via the Report on Doctor of Philosophy Oral Examination form.

## Dissertation Preparation

The dissertation should be selected and planned with care; it may be of a research, expository or critical nature. It must be an original work, in or related to the student's major field of specialization. Work submitted for credit in other courses cannot be used in fulfilling dissertation requirements. Neither the results of the research nor the publication of findings may be restricted by any non-University agency. The results of the research may be published prior to submission and acceptance of the dissertation, with the approval of the dissertation advisor.

Members of a doctoral dissertation advisory committee must read, approve and sign the dissertation. Such approval includes all academic and professional evaluations and judgments as to originality, adequacy, accuracy, significance, methodology, justification or conclusions and correctness of style. Approval shall not be recorded until the work and manuscripts are fully verified and accepted.

**Format:** Candidates preparing manuscripts are instructed to follow closely the Graduate School regulations governing the format of the dissertation. Format requirements and format templates are available on the Graduate School website. Before proceeding to the Defense stage, the student must submit the dissertation to the Graduate School for a format check. The dissertation may be submitted electronically to <http://dissertations.umi.com/wayne> or as hard copy. The dissertation format and appearance must be acceptable to the Graduate School before the Dissertation Public Lecture Presentation-Defense shall be authorized. The Graduate School Ph.D. Office staff is available to assist advisors and students who have format questions or problems.

**Inclusion of Publications in the Dissertation:** In such instances where doctoral students have published work in discipline-appropriate refereed journals, and when the doctoral committee approves, these published materials may be incorporated into the dissertation. For papers so included, the student must be the principal author and/or have made the major contribution to the published work. In cases of co-authored material, the text of the dissertation must make clear

(e.g., in the summary and conclusion) to the reader the original contribution of the author. If published materials are included, references to them in the other dissertation sections may not need to be as detailed as is required in dissertations which do not incorporate published materials.

When a co-author is someone other than the candidate and the advisor, it is recommended that permission to include the publication in the dissertation be secured from the other author(s). Students are advised that incorporation of materials published elsewhere requires permission of the copyright holder.

Students must format a published article to conform to the body of the dissertation. As well, all remaining sections of the dissertation (e.g., abstract, introduction, conclusions) must conform to Graduate School format requirements.

## Dissertation Public Lecture Presentation-Defense

Two weeks before the planned Defense, each dissertation advisory committee member must have certified in writing, via the Dissertation Public Lecture Presentation-Defense Final Report form, that the dissertation has been read and approved for the Defense. The Defense cannot be held without such certification.

**Dissertation Readiness for the Defense:** Dissertation committee members will sign Part 1 of the Defense form and thereby indicate their assessment that the dissertation is ready for the Defense. Under no circumstances will a committee member sign Part 1 of the Defense form if s/he has not read the dissertation. A pre-Defense meeting of the student and whole committee is recommended, allowing committee members to indicate their concerns regarding the dissertation and the student to make needed revisions. Consequently, no requests for major revisions of the dissertation should arise at the Defense.

The Graduate School requires that all dissertations and theses must be submitted for a plagiarism check through Safe Assign in Blackboard (or similar tool) prior to the defense. The Graduate School further requires that the student's dissertation/thesis advisor or program Graduate Director certify that the dissertation/thesis has been checked through Safe Assign. The Defense Final Report form or a memo will be used to transmit the certification to the Graduate School.

**Policy on Presence at the Defense:** The Graduate School expectation is that the student and all members of the dissertation committee be physically present at the student's Final Defense of the dissertation. At the very least, the student and the dissertation committee chair(s) must be physically present. Committee members who cannot attend in person, synchronous audio-visual access, such as Skype, will be required. The Defense will be held during business hours, Eastern Standard Time. Electronic signatures on the Defense form are accepted, but each committee member will sign the title page of the dissertation.

**Graduate Examiner:** The Graduate Examiner is the presiding officer at the Defense and is responsible for its conduct. Representing the Graduate Council and the Graduate School, the Graduate Examiner serves as an advocate for the student. The dissertation advisor serves as the Graduate Examiner, but the student (or any committee member) may request that the Graduate School appoint a Graduate Examiner from outside the committee.

The Doctoral Dissertation Public Lecture Presentation-Defense has three phases, as follows:

**Public Lecture Presentation-Defense:** In the public lecture or presentation, the candidate is expected to share the results of his or her dissertation research with the audience and the dissertation committee. This lecture or presentation may vary in length depending on the circumstances and discipline. At the end of this public lecture or pre-

sentation, members of the audience, as well as the dissertation committee members, are encouraged to direct questions pertaining to the presentation or research to the candidate. The Graduate Examiner moderates the questioning.

**Communicating Dissertation Revision Requirements:** To communicate to the Graduate School that revisions to the dissertation were requested at the Defense, a box on the Defense form will be checked that indicates "Changes Required." The dissertation advisor will not sign the dissertation cover page until the student has made all required revisions. Submission of the cover page to the Graduate School will indicate that the student has made the revisions satisfactorily.

**Dissertation Committee's Meeting with the Candidate:** At the conclusion of the public presentation and defense, the dissertation committee members will meet privately with the candidate to pose further questions about the candidate's research or to address issues related to the dissertation manuscript. The Graduate Examiner presides at this meeting.

**Evaluation of the Candidate's Performance:** Upon the completion of the public presentation and defense and the private meeting, the dissertation committee members, in the absence of the candidate and the audience, discuss the candidate's performance and decide whether or not he/she has passed the defense. The Graduate Examiner chairs the discussion and communicates the result to the candidate, and subsequently, to the Graduate School via the Dissertation Public Lecture Presentation-Defense Final Report form.

If the candidate fails the Defense, the advisor and committee may recommend that the student be given the opportunity for a second defense. If a second defense is recommended, the advisor and committee will submit to the Graduate School, the Graduate Director of the program and the student a written description of the areas of weakness and what the student must do to correct the weaknesses. If the candidate will need to make extensive corrections to the manuscript (ones requiring more than ten days), he/she will not be passed. Candidates must wait at least four months before holding another defense. The second defense shall be considered final.

**Ph.D. Completion Deadline:** Each semester the Graduate School establishes a Ph.D. completion deadline calendar for students intending to graduate in that semester, by which time all work must be completed and all required documents submitted, if the Ph.D. degree is to be awarded that term. Any dissertation revisions stemming from the Defense must be finished by the completion deadline for the semester.

## Submission of Approved Dissertation

The submission of the approved dissertation concludes work pursuant to the doctoral degree. In essence such manuscripts represent a tangible summation of the many hours spent in study and research to acquire a higher education. For this reason such scholarly documents must evidence only the highest standards of research and writing. They must show consistency in punctuation, style and format. It is official policy that acceptance of a dissertation, as well as certification of a candidate for a degree, shall not be granted unless a manuscript is technically correct in format and in a form suitable in all respects for publication.

The corrected dissertation must be submitted by the completion deadline of the graduation semester. Manuscripts must be submitted electronically to <http://dissertations.umi.com/wayne>. The signature page must also be submitted to the Graduate School.

**Dissertation Publication Plan:** To insure publication, doctoral candidates are assessed a fee and the University arranges to have the dissertation published. Filing a Doctoral Dissertation Publishing Agreement form is required.



**Dissertation Copyrighting Charge:** Copyright service, provided by Proquest, is available upon request. The student shall pay the amount necessary to cover the cost of copyrighting.

Students wishing to obtain bound dissertation copies for personal use must select a bindery and pay the binding charges for these.

Information regarding completion of additional forms is available from the Graduate School office and website. The Ph.D. degree will be certified only upon receipt of the approved dissertation and the reconciliation of the student's Plan of Work and transcripts.

## Graduation

Each candidate for a degree or certificate must file a *Graduate Application for Degree* by the end of the fourth week of classes in the semester in which he/she expects to complete the requirements for the degree. Consult the academic calendar on page 4 of this bulletin. If an application for a degree was filed for a previous term in which the student did not graduate, a new application is necessary.

## 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 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.

## Ph.D. Program Exceptions

A student who wishes to request an exception to any of the Ph.D. program minimum requirements should file a written, detailed petition with his/her advisor. If the advisor approves the petition, he/she will forward it, along with his/her recommendation, to the Chairperson of the departmental Graduate Committee. If approved by the department, the petition will be forwarded to the Graduate School. All exceptions must ultimately be approved by the Graduate School. Appeals of decisions follow the same process; appeals of Graduate School decisions may be presented to the Provost.

## Ph.D. Time Limitation

Students have a seven-year time limit to complete all requirements for the Ph.D. degree. The seven-year period begins with the end of the semester during which the student was admitted to doctoral study and was completing work toward meeting the requirements for the degree. In order to request a time extension, a student may petition his/her advisor. If the advisor supports the request, it is forwarded to the chairperson of the departmental Graduate Committee, and if approved, it is reviewed by the Graduate School. The petition must include information concerning the reasons for the request, an explanation of how the student's circumstances have changed to enable him/her now to complete the dissertation, compelling evidence that the student's dissertation is in progress, a plan and timeline for completion of the dissertation and an explanation of how the student has remained current in his/her field. If students do not complete the program within ten years of their applicant date with approved time extensions, the qualifying examination(s) must be repeated. Students who have been granted time extensions must complete all program requirements within twelve years of the applicant date.

In the program leading to the doctor's degree, up to thirty-two semester credits (forty-two semester credits for College of Education students) of 'B' or better graduate credit earned prior to the student's admission as a doctoral applicant may be applied toward the degree without regard to lapse of time. Credit earned with 'B' minus or 'S' or 'P' (satisfactory or pass) grades are not acceptable for transfer.

## Ph.D. Foreign Language Requirement

The Ph.D. Foreign Language Requirement is a matter of departmental option. Students are advised to contact the department in which they intend to major in order to determine the nature of the Ph.D. foreign language requirement, if any, for that discipline.

Doctoral students should bear in mind that most departments reserve the right to require foreign language proficiency for any Ph.D. student pursuing research which would benefit from the use of foreign language materials, even though other students in the same Ph.D. program are not required to establish foreign language competence.

## Ph.D. Residence Requirement

The Ph.D. requirement of one year of residence is met by completion of at least six graduate credits in course work, exclusive of dissertation, in each of two successive semesters. The spring/summer semester may be excluded from the definition of successive semesters. Additional residence requirements may be imposed by the Ph.D.-granting departments. The student should contact the major department to determine what residence requirements must be satisfied.

In the experimental sciences for which it can be demonstrated that a student's research must be completed on campus, the residence requirement for the Ph.D. degree may be met by the dissertation director's written certification that the student has been in full-time residence for at least two successive semesters and one summer session. In this latter case, a count of course credits is not required for the fulfillment of the residence requirement, but specific dates of residence must be furnished.

In addition, the Ph.D. residence requirements stipulate that the student must elect at least thirty credits in graduate work exclusive of dissertation direction at the University.

## Application for Degree or Certificate

Each candidate for a degree or certificate must file an Application for Degree online at <http://www.pipeline.wayne.edu>, not 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; consult the Academic Calendar on page 4 of this bulletin or on the Registrar's website: <http://reg.wayne.edu/students/calendar.php>. 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.

# Educational Outreach

4030 Faculty/Administration Bldg., Detroit MI 48202;  
Telephone: (313) 577-4682

*Associate Vice President for Educational Outreach  
and International Programs:* Ahmad Ezzeddine

*Director:* Terry Margolis

*Associate Director, Macomb* Kevin Chandler

*Associate Director, Oakland Center:* Kelly Dillaha

*Program Coordinators:* William Slater, Cheryl White, Gail Stanford

*Instructional Services Supervisor:* Margaret Matyniak

E-mail: [educationaloutreach@wayne.edu](mailto:educationaloutreach@wayne.edu)

*Website:* <http://www.educationaloutreach.wayne.edu>

Educational Outreach is principally responsible for Wayne State University's off-campus programs and courses. This division administers academic off-campus course offerings and programs for most Schools and Colleges of the University, for undergraduate and graduate credit; the University Summer Session; and the partnership degree programs at University centers. 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.

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.

## Extension Centers

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 CENTER:** 33737 W. Twelve Mile Road, Farmington Hills, MI 48331; Telephone: 248-553-3545; 313-577-3592; Fax: 248-553-7733; E-mail: [oaklandcenter@wayne.edu](mailto:oaklandcenter@wayne.edu); Website: <http://oakland.wayne.edu/center/>

**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](mailto:macomb@wayne.edu); Website: <http://macomb.wayne.edu/mec/>

**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](mailto:macomb@wayne.edu); Website: <http://macomb.wayne.edu/universitycenter/>

**HARPER WOODS CENTER:** Harper Woods Middle/High School, 20225 Beaconsfield Street., Harper Woods, MI 48225; Telephone: 586-263-6700 (contact via University Center at Macomb); Email: [macomb@wayne.edu](mailto:macomb@wayne.edu); Website: <http://waynecounty.wayne.edu/harperwoods/>

**ADVANCED TECHNOLOGY EDUCATION CENTER:** Macomb Community College, South Campus, 14500 E. Twelve Mile Road, (WSU

Office - Bldg. T, Rm. 126), Warren, MI 48088; (contact via the University Center at Macomb); E-mail: [Macomb@wayne.edu](mailto:Macomb@wayne.edu).  
Website: <http://macomb.wayne.edu/atec/>

## Academic Regulations

Complete information regarding academic rules and regulations of the University is contained in this (General Information) section of the bulletin.

**Credit Registration:** Registration for off-campus academic courses is held during the regular Registration periods for each semester (see Academic Calendar, page 4). Instructions for each registration period are available on the WSU website and Pipeline. 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. All fees are subject to change at any time without notice by action of the Board of Governors of the University.

## 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. Website: <http://admissions.wayne.edu/guest/requirements.php>

## 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 adviser as well as the specific degree program requirements, 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.

## Degree 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 degrees are offered at various extension centers. New programs are added each semester and a complete listing can be found on our website at <http://educationaloutreach.wayne.edu>.

### *UNDERGRADUATE DEGREE 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 in Health Education concentration in Community Health

Bachelor of Arts with a major in History

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

### *GRADUATE DEGREE PROGRAMS*

Master of Business Administration

Education Specialist Certificate in Special Education with a concentration in Learning Disabilities or Autism Spectrum Disorder

Master of Arts in Counseling with a concentration in Community or School Counseling

Master of Education with a major in Bilingual/Bicultural Education with a concentration in English as a Second Language

Master of Science in Engineering Management

Master of Arts in Industrial Relations

Master of Library and Information Science

Specialist Certificate in Library and Information Science

Master of Arts in Employment and Labor Relations

Master of Education with a major in Sports Administration

Master of Education with a major in Special Education and concentrations in:

- Cognitive Impairment
- Learning Disabilities
- Autism Spectrum Disorders

Master of Social Work

### Office of Online Programs

*Director:* James Mazoué, Ph.D.; 169 Purdy/Kresge Library  
*Telephone:* 313-577-4873  
*Website:* <http://www.online.wayne.edu>

This office supports the development and implementation of quality online programs and courses, and provides administrative and support services, including the review, development, and implementation of policies and guidelines for the administration of online programs. The Office also works closely with WSU schools, colleges, faculty, and instructional technology support staff on campus, to ensure that students have access to a broad range of high quality online course offerings and flexible degree options, including complete online

degree programs. In partnership with other campus support organizations, the Office of Online Programs serves as a campus-wide advocate for online learning, a resource for online faculty development initiatives and as a single administrative service point for students who need information about how to register and enroll in the University's online programs and courses.

The Office provides a wide range of consulting support and production services for faculty and academic departments interested in developing online courses and programs that offer students new educational options and opportunities. Primarily through its website, the Office of Online Programs also serves current and prospective online students as one-stop informational gateway to the University's online offerings, academic advising, technical support, and online student services.

### *Online Degree Programs*

The following graduate degrees are offered online by the Schools and Colleges within the University:

#### **Master's Degrees**

College of Education

- Master of Education in Instructional Technology
- Master of Education in Career & Technical Education

School of Library and Information Sciences

- Master of Library and Information Science

School of Social Work

- MSW Bridge
- MSW in Family Systems
- MSW in Cognitive Behavioral Therapy (starting Fall 2012)

#### **Certificates**

College of Fine, Performing, and Communication Arts

- Communication and New Media

School of Library and Information Sciences

- Public Library Services to Children and Young Adults
- Information Management for Librarians
- Records and Information Management

#### **PROGRAMS WITH ONLINE OPTIONS**

(All or most of the degree requirements can be completed online. Contact the Program for additional information)

#### **Master's Degrees**

School of Business Administration

- MBA in Business Administration

#### **Doctorates**

College of Pharmacy and Health Sciences

- Doctorate in Transitional DPT

#### **Certificates**

College of Education

- Graduate Certificate in Online Teaching
- Graduate Certificate in College & University Teaching

College of Engineering

- Graduate Certificate in Systems Engineering

### Visitor Program (Non-Credit)

The Visitor Program allows any adult who is not currently enrolled in credit courses at Wayne State to attend a wide range of University courses for no credit. Provided space is available, 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 sub-

mit written work, take examinations, or receive academic acknowledgement or transcripts.

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.

Tuition for courses enrolled under Visitor status is one-half of the freshman credit rate, the full Omnibus fee, plus one-half of the registration fee (which is non-refundable). Tuition must be paid in full at the time of registration. Payment is accepted by money order, check, or MasterCard. 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 313-577-4665.

## Executive and Professional Development

*Director:* Terry Margolis

*Program Coordinators:* Naimah Wade, Lori Wurth

*Telephone:* 313-577-4449

*Website:* <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, on-line 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.

### SMALL BUSINESS SERVICES

Building on twenty years of success, EPD's Small Business Programs continue to attract people from all walks of life who want to learn how to start and run their own small businesses. These practical, step-by-step, hands-on programs are offered throughout the nation and have recently been underwritten by DTE Energy as a resource for their business customers.

## 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: 313-577-4449.

## Blackstone LaunchPad

*Executive Director:* William Volz

1201 Undergraduate Library

*Phone:* 313-577-1533

*Program Coordinators:* Aubrey Agee and Cynthia Finger-Hoffman

<http://www.blackstonelaunchpad.wayne.edu>

Funded by the Blackstone Charitable Foundation, the Blackstone LaunchPad helps aspiring student entrepreneurs transform untested ideas into vital businesses by providing practical skills, seasoned advice and professional contacts. The mission of the LaunchPad is to encourage entrepreneurship as both a legitimate career path and an attainable reality, as well as a catalyst for economic and social growth in the region.



# Office of International Programs

4092 Faculty/Administration Building; Phone: 313-577-8968  
Fax: 313-577-5666

*Associate Vice President for Educational Outreach and International Programs:* Ahmad Ezzeddine

*Associate Director:* Jaclyn Assarian

*Project Coordinator:* Rebecca Journigan

Website: <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 following programs and activities: the Office of International Students and Scholars; Study Abroad and Global Programs; and the English Language Institute.

## Office of International Students and Scholars (OISS)

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

*Acting Director:* Kelly Dixon

Website: <http://www.oiss.wayne.edu>

The University is home to over 2500 international students and visiting scholars from over 100 countries. The OISS was established to aid in their educational and scholarly pursuits at Wayne State. OISS provides quality service in facilitating linkages to the campus and community, offering cross-cultural educational programs and activities, and assisting in matters related to immigration regulation compliance.

The mission of OISS is to support and enhance the educational, cultural, and social experiences of international students and scholars at Wayne State University. It serves as a primary link to the University, the community, the federal government, and public and private agencies and organizations. In addition, it provides international and cross-cultural educational programs to the University and its community.

OISS staff advises students and scholars on immigration regulations and issues of cross-cultural adjustment; provides educational, cultural and social programs and activities, including a comprehensive orientation program and written materials designed to help them achieve their educational and personal goals; assists University departments in the hiring of foreign national employees by processing necessary immigration petitions with the U.S. Citizenship and Immigration Services (USCIS), Department of Labor (DOL), and the United States Department of State (DOS); consults and interacts with University units, governmental organizations and other agencies; serves as a focal point for campus and community services; provides cross-cultural workshops and training seminars; and works with campus and academic support units to help define and achieve institutional goals related to international education and exchange.

**Academic Progress:** *Department of Homeland Security regulations require:*

- 1) That F-1 and J-1 students maintain a full course of study and make normal 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 a

vacation semester during Spring/Summer or an approved annual vacation).

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 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.

**Canadian Students, Commuting:** 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.

### *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 F-1/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. Insurance that meets these requirements may be purchased through OISS. 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 the health insurance please access the OISS website at <http://www.oiss.wayne.edu> or contact the Health Insurance Advocate in the OISS; telephone: 577-0724 or e-mail [oissmail@wayne.edu](mailto:oissmail@wayne.edu)

**Insurance for U.S. Citizen and Permanent Resident Students** and their dependents: U.S. citizen and permanent resident students can purchase the voluntary Student Injury and Sickness Insurance Plan. For more information and/or to purchase the Domestic Health Insurance plan, students may go to <http://www.oiss.wayne.edu> or contact the Health Insurance Advocate in the OISS; telephone: 577-0724 or e-mail [oissmail@wayne.edu](mailto: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 in the Activity Room in the Towers Residential Hall 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

906 W. Warren Avenue; 131 Manoogian Hall; 313-577-3207

*Director:* Kelli Dixon

*e-mail:* [studyabroad@wayne.edu](mailto:studyabroad@wayne.edu)

*Website:* <http://www.studyabroad.wayne.edu>

Study Abroad and Global Programs coordinates international educational activities at Wayne State University. Key activities include: 1) the administration of the global grant competition for students to encourage international activity on campus including international research and student study/internship abroad initiatives and the U.S. Student Fulbright program; 2) the coordination and support of internationally-themed events; and 3) 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 with 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.

**Arabic Language and Culture at the American University of Cairo or Lebanese American University, Beirut:** These programs provide 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 Egypt or Lebanon. For information on these programs, contact the Study Abroad and Global Programs Office, 577-3207 or visit our website at <http://www.studyabroad.wayne.edu> for current program information.

**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. For information on this program, contact the Study Abroad and Global Programs Office, 577-3207 or visit our website at <http://www.studyabroad.wayne.edu> for current program information.

**Spanish Language, Literature and Culture in Xalapa, Mexico at the Universidad Veracruzana:** This program provides students with an opportunity to study Spanish in a Spanish speaking country for an entire semester or academic year. The program is unique that in addition to learning Spanish, it provides participants with a complete cultural immersion experience: living with a Mexican family and interacting with Mexican students through programs and activities organized by the Universidad Veracruzana. For information on this program, contact the Study Abroad and Global Programs Office, 577-3207 or visit our website at <http://www.studyabroad.wayne.edu> for current program information.

**Euram Center (France):** Located in the heart of the Loire Valley, a 1000-year-old abbey is the site for a semester-long study opportunity for Wayne State students. This program is ideal for freshmen and sophomores looking for General Education Foreign Culture credit. All courses, with the exception of the foreign language courses, are taught in English. For information on this program, contact the Study Abroad and Global Programs Office, 577-3207 or visit our website at <http://www.studyabroad.wayne.edu> for current program information.

**Other International Opportunities:** A number of short-term special international study trips for credit are available to Wayne State students. Visit our website at <http://www.studyabroad.wayne.edu> for current program information.

**FULBRIGHT GRANTS and other grants for graduate study abroad:** The U.S. Fulbright Student program 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. For more information

and application forms, contact the Study Abroad and Global Programs Office, 906 W. Warren, 131 Manoogian Hall; 313-577-3207. The Fulbright Program website is: <http://us.fulbrightonline.org/home.htm>

**International Students** requiring information on study at Wayne State University should contact the Office of International Students and Scholars; see <http://www.oiss.wayne.edu>

**Study Abroad 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 WSU Undergraduate Bulletin.

## English Language Institute (ELI)

351 Manoogian Hall, (313) 577-2729

Director: Bruce Morgan

Website: <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 English communication, cultural orientation, and academic preparation skills to non-native speakers of English from all over the world for more than thirty-five years. The ELI is committed to assisting individuals at all levels of English proficiency 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-four 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 research paper writing, essay test-taking, 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 practice TOEFL tests while at the same time urging students to take advantage of all university facilities and services.

**Non-Intensive Program:** Students who complete the requirements of the ELI also can enroll in ENG 0500 offered as Written Communication, offered to all non-native speakers of English who do not pass the WSU undergraduate writing requirement. This two-credit course meets once a week and satisfies University admission requirements for writing proficiency.

Other non-intensive classes provide instruction for those wishing to develop or improve their English proficiency at a slower pace than that of the intensive program. Specialized classes, including TOEFL (PBT, iBT, and TSE) preparation and American Pronunciation, are offered during the evening and are especially geared to professionals

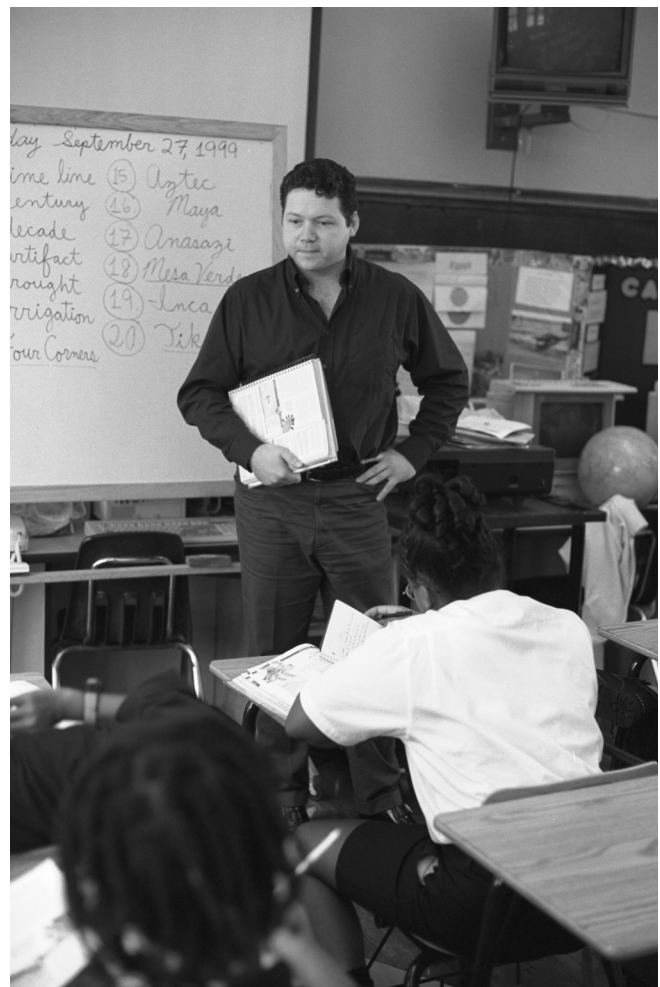
**Test of English as a Foreign Language (TOEFL) Testing and Reporting:** To insure international students will be successful in the University, all must meet Wayne State's TOEFL admission require-

ments. The ELI administers the paper-based TOEFL fourteen times per year on the main campus and four times at Wayne State's satellite Oakland Center. 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 ENG 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. ENG 0520 is offered fall and winter semesters.

Members of the ELI faculty also participate in the final day of the Graduate School's GTA orientation each August by facilitating practice teaching sessions with international GTAs.

**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. Introduction to Scholarly Writing for Non-native English Speakers (English 5850) is a course supported by the Graduate School and taught by ELI faculty each semester.



# University Centers and Institutes

## Center for Automotive Research

2121 Engineering; 313-577-3887; Fax: 313-577-8789

e-mail: henein@eng.wayne.edu

Website: <http://www.eng.wayne.edu/page.php?id=751>

Director: Naiem Henein, Ph.D.

The Center for Automotive Research (CAR) was established in 1980 to advance, promote and support research and academic courses in areas of interest to the automotive industry. Faculty and graduate students from the College participate in the research programs conducted at the Center.

Current research areas include the auto-ignition, combustion and emission characteristics of petroleum, alternate and renewable fuels in spark-ignition and compression-ignition engines, while operating in their conventional and HCCI (Homogeneous Charge Compression Ignition) modes. In addition, the research includes new techniques to determine the instantaneous engine friction and its components under different operating modes, lubrication and wear in engine parts, electronic controls, engine dynamics, sensors diagnostics, and engine startability under low ambient temperatures.

A unique research area at CAR is engine cold start at low ambient temperatures to reduce the number of cranking cycles and exhaust emissions in gasoline and diesel engines. In gasoline engines, the hydrocarbon emissions in the first few seconds of engine start, before the catalyst is warmed up, represent a challenging problem. At CAR, strategies have been developed for managing the fuel delivery, intake charge and spark timing to reduce hydrocarbon emissions by cutting the number of cranking cycles and by eliminating combustion instability. The factors that cause misfiring after acceleration have been identified in both gasoline and diesel engines. In diesel engines, innovative strategies for fuel injection have been developed to reduce the cranking period and combustion instability at low ambient temperatures, while injecting smaller amounts of fuel than has been conventionally applied. The low ambient temperature research is conducted in a cold room, electronically controlled to produce ambient temperatures between 25°C and -50°C.

In addition to the cold room facility, the research has been extended to gain a basic understanding of the spray behavior, autoignition and combustion processes at low ambient temperatures, using advanced laser based diagnostic techniques. The research is conducted on a unique optically accessible engine at low ambient temperatures. The engine has an extended piston with a transparent piston top for spray and combustion imaging. Furthermore, the engine has four transparent windows on the top of the cylinder for laser beam based combustion diagnostic investigations. In addition, spectroscopic techniques are used to determine the key radicals and combustion intermediates that lead to the auto-ignition of fuel-air mixtures, flame development, formation of nitrogen oxides, soot and other emissions.

The research in the Center combines theoretical and experimental investigations. Theoretical research deals with fundamental processes of thermodynamics, heat transfer, mass transfer, and combustion kinetics, applied to combustion engines. CFD and chemical kinetics codes are used to determine the flow in the combustion chamber, the development of the autoignition and combustion processes, the radicals concentrations and the formation of the different engine-out emission species. In addition to the cold room and optical engine test cells, experimental research is conducted under warmed up and loaded engine conditions in six dynamometer test cells equipped with electric dynamometers, flow-meters, pressure transducers, charge amplifiers, shaft encoders, gas analysis equipment, particulate mass and characterization equipment, gas chromatographs,

FTIR spectrometer, mass spectrometer, fast response flame ionization detectors, fast-response NO detectors, and fast response CO and CO<sub>2</sub> detectors and high speed data acquisition systems.

## Bioengineering Center

818 W. Hancock, 2208 Bioengineering Center.;

313-577-0252; Fax: 313-577-8333

e-mail: [king.yang@wayne.edu](mailto:king.yang@wayne.edu)

Website: <http://www.eng.wayne.edu/page.php?4625>

Director: King H. Yang

The Bioengineering Center is an interdisciplinary research unit that coordinates and supports joint research activities between the College of Engineering and the School of Medicine. Although the Center is administered by the College of Engineering, the research faculty is drawn from such diverse departments as Anatomy, Physiology, Orthopedics, Neurological Surgery, Mechanical Engineering, Electrical and Computer Engineering, Chemical Engineering, and Physical Medicine and Rehabilitation. The research activities are located on campus as well as in various hospitals and clinics of the Detroit metropolitan area.

Current research projects include a continuing program on trauma biomechanics, the study of human response and tolerance to injury resulting from high speed vehicular accidents. This area of research has recently been expanded to include an investigation of the effects of non-lethal munitions, blast-induced mild traumatic brain injuries, and landmine-induced spine and lower extremity injuries. The Center is equipped with a vast array of impact facilities, including three accelerator mechanisms used for simulating car and aircraft crashes, two linear impactors, three servo hydraulic Instron material testing systems, a high-rate Instron material testing system, and a 12-inch diameter shock tube. The Center is also equipped with a computer-controlled universal receiver (which can fire 9 mm, .357 Magnum, .44 Magnum, and 12 gauge ammunitions) and an air cannon system (which can fire 37 mm sub-munitions through the use of compressed gases) to study the injurious effects of non-lethal munitions as well as behind body armor.

Up to 150 channels of data can be acquired simultaneously for digitization and data processing. Additionally, the Advanced Human Modeling Laboratory in the Center is equipped with an Opteron Cluster an Opteron Cluster #1: 15 nodes (30 CPU, 64 bits) + 1 master (Sun Fire V20z dual AMD Opterons 250 with 4G RAM) linked by a Myrinet network, running RH Linux + Rocks cluster software, an Opteron Cluster #2: 15 nodes (60 CPU, 64 bits) + 1 master, 3 TB raid, running RH Linux and Beowulf cluster software + PBS, a new Opteron Cluster #3 (ON ORDER): 16 nodes (120 CPU, 64 bits) + 1 master, 3TB raid 20GB infiniband interconnect, running RH Linux WS5.2 + Rocks cluster software, and 10 Intel dual Xeon (2GHz-3.2GHz), running Redhat Linux 7.2 to RHWS4. For high-speed graphics, the Center has 4 Intel P4 3.2GHz 1M L2 2G Ram with Nvidia Quadro FX3400 Graphics running RedHat WS4, 3 Intel Core 2 Duo 2GHz with Nvidia Graphics running Windows XP 64-bit and Redhat Linux WS5.1 (dual-boot), and legacy capability with HP j6000, j5600, c5600 (dual PA8500, HPUX11), two SGI Octane (dual R1000, IRIX6.5) graphic workstations. For data storage, the Center has Anacapa Opteron 250 2U raid (3.6TB raid mirrored) and 3 external raid boxes on SCSI160/320 (1.8-2.2TB) with an external 12 tapes system (2.4TB capacity).

The Center is also engaged in a study of low back pain, which is a common affliction among workers in industrialized countries. A full neurophysiology laboratory is available for the characterization of neural impulses and the histological evaluation of tissues associated with pain stimuli. Research also includes the characterization of biological materials using uni-axial and multi-axial testing protocols at high strain rate. This includes the assessment of orthopedic soft tissues, bone, brain and individual axons. Other areas of research include human motion biomechanics and orthopedic biomechanics.



The research program in the Bioengineering Center has been strengthened through the creation of a broader graduate program in biomedical engineering. This program, offering both M.S. and Ph.D. degrees, involves fifteen faculty members drawn from seven departments within both the College of Engineering and the School of Medicine. The areas of concentration have been expanded beyond the traditional transportation-related trauma to include age-related injury, engineering neurophysiology and biomaterials, including tissue engineering. Students who wish to major in biomedical engineering should apply for admission to the graduate program in Biomedical Engineering, housed in the College of Engineering. In addition, a number of traditional engineering departments allow their students to concentrate in biomedical engineering; consult the program descriptions in the College of Engineering section of this bulletin.

## Barbara Ann Karmanos Cancer Institute

4100 John R Street, 2nd Floor; 313-576-8670, 1-800-527-6277;

Fax: 313-576-8668

e-mail: [bepler@med.wayne.edu](mailto:bepler@med.wayne.edu)

Website: <http://www.karmanos.org>

Director, President, and CEO: Gerold Bepler, M.D., Ph.D.

The Barbara Ann Karmanos Cancer Institute is one of forty-one NCI designated comprehensive cancer centers in the country and has been serving the Detroit area for more than sixty years. The Karmanos Cancer Institute operates the Karmanos Cancer Center, an independent cancer hospital, and manages the comprehensive cancer center core grant from the National Cancer Institute in affiliation with Wayne State University. The faculty of the graduate program in cancer biology are scientific members of the Cancer Center. Students are trained in biology of cancer, at the molecular, cellular, and tissue levels, as well as in population studies of cancer. The focus of this experience can be varied to suit individual student needs. It leads to the Doctor of Philosophy degree; a joint Ph.D.-M.D. program is also available.

The Barbara Ann Karmanos Cancer Institute is a premier, nationally-recognized cancer research, treatment, education, and outreach center in the United States. It is also home to one of the eighteen national registries of the SEER (Surveillance, Epidemiology, End Result) programs. The current focus of its research includes Breast Cancer, Developmental Therapeutics, Molecular Biology and Genetics, Population Studies and Prevention, and Proteases in Cancer.

## Center for Latino and Latin American Studies

3324 Faculty/Administration Building; 313-577-4378;

Fax: 313-993-4073; e-mail: [aa1941@wayne.edu](mailto:aa1941@wayne.edu)

Director: Jorge L. China, Ph.D.

Website: <http://www.clas.wayne.edu/cilas/>

The Center for Latino 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. Its mission has four components:

1. The Center recruits students into the University through a two-year program designed to facilitate the transition between high school and college and to increase retention. It also provides support services for students interested in Latino and Latin American studies outside of the two-year program.
2. It promotes research on: issues relevant to the Latino community, especially in the urban and workplace environment; and Latin American history and current issues.
3. It creates and fosters the interaction and exchange of personnel and resources between the University and the Latino 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 issues within the University, the Center contributes to the University's continuing efforts to create a richer multicultural campus environment.

## Center for the Study of Citizenship

3089 Faculty/Admin. Bldg.; 313-577-2593; Fax: 313-577-6987

e-mail: [M.Kruman@wayne.edu](mailto:M.Kruman@wayne.edu)

Website: <http://www.clas.wayne.edu/citizenship>

Director: Marc W. Kruman, Ph.D. The Center for the Study of Citizenship at Wayne State University promotes research and intellectual exchange about citizenship among a global community of scholars; students; political, community, and business leaders; and the general public. The Center fosters research in the emerging interdisciplinary field of citizenship studies locally, nationally, and internationally. In particular, the Center encourages analysis of the relationship between citizens and the political, social, economic, and cultural communities of which they are a part. Toward these ends, the Center fosters the study of citizenship as an interdisciplinary academic field and provides a forum to stimulate and shape public discourse about citizenship.

## Developmental Disabilities Institute

Leonard Simons Building, Suite 268, 4809 Woodward Avenue;

313-577-2654 or 1-888-978-4334; Fax: 313-577-3770

Director: Barbara LeRoy, Ph.D.; E-mail: [B\\_Le\\_Roy@wayne.edu](mailto:B_Le_Roy@wayne.edu)

Website: <http://www.ddi.wayne.edu/>

The Developmental Disabilities Institute is one of a national network of over sixty University Affiliated Programs, nationally and in U.S. territories. The Institute's mission is to contribute to the development of inclusive communities, which enhance the quality of life of 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 Institute offers a wide range of opportunities for students and faculty to engage in state-of-the-art community-based research, education, and technical assistance.

Students from a wide range of disciplines are provided opportunities for interdisciplinary leadership education and participation in research, training, and technical assistance projects. Students may earn credits for designation as Trainees of the University Affiliated Program. These activities allow students to develop leadership skills and to gain skills in working with an interdisciplinary team. Interdisciplinary Education Programs of the Institute are developed as cooperative efforts between the Institute and academic units throughout Wayne State University and in collaboration with other universities in Michigan. The Graduate Certificate Program in Disabilities offers leadership education opportunities related to community integration and support of persons with disabilities; see page 537. A number of other programs have been developed with academic programs throughout the University.

The Institute develops activities and projects based on needs of persons with disabilities and the communities in which they live and work. The Community advisory Council, composed of representatives of twenty-five key statewide organizations, meets quarterly to provide information and assistance to Institute staff and faculty in establishing priorities and evaluating activities.

## Institute of Environmental Health Sciences

Eugene Applebaum College of Pharmacy and Health Sciences,  
259 Mack Ave., Room 5137; 313-577-0100; Fax: 313-577-0082  
e-mail: [iehs\\_info@wayne.edu](mailto:iehs_info@wayne.edu)  
Website: <http://www.iehs.wayne.edu>  
Director: Melissa Runge-Morris, M.D.

The Institute of Environmental Health Sciences was chartered by the Wayne State University Board of Governors in 1988 to support the University's mission dedicated to excellence in research, teaching and service in the area of toxicology/environmental health. The Institute is interdisciplinary in nature, involving faculty in the School of Medicine, Children's Hospital of Michigan, the Karmanos Cancer Institute, the Eugene Applebaum College of Pharmacy and Health Sciences and the College of Liberal Arts and Sciences, through the EHS Center of Excellence.

Technological advances of the past several decades have significantly improved our standard of living and quality of life. Technological advancements, however, often produce new or unsuspected health hazards resulting from bioaccumulation and/or years of exposure to toxic chemicals. The progressive increase in obesity/overweight reported for both adults and adolescents results in metabolic syndrome, which is reflected by increased dyslipidemia, cardiovascular disease, diabetes, cancer, altered gene expression, toxicant, and endogenous lipid metabolism and increased disease susceptibility. Headquartered at the Institute is the federally funded and designated EHS Center of Excellence in Molecular and Cellular Toxicology with Human Applications, which provides infrastructural support through core facilities and Pilot Projects funds for research in environmental health sciences. Community outreach and education is also provided through the EHS Center. The Institute is supported by institutional funds and by grants from federal agencies; its primary objective is to address the short- and long-term effects of toxic agents on human and animal life.

Institute faculty have active research programs in endocrine/metabolic syndrome as it relates to environmental toxicant metabolism, oxidative stress, inflammation and altered cell/organ function, biochemical/molecular toxicology, respiratory toxicology, metals and solvent toxicology and epigenetics. Techniques include the use of transgenic animal/gene knockout models, gene silencing technologies, genomics, including gene and micro-RNA global gene expression profiling using microarray analysis, identification and analysis of polymorphisms, bioinformatics and proteomics, with emphasis on relevance and applications to human disease through translational activities. The Institute emphasizes research using contemporary approaches in molecular biology, cell biology, genomics, bioinformatics, and proteomics to address critical and fundamental issues on the effects of chemicals and environmental agents on human health and disease. Research conducted in the Institute and EHS Center of Excellence contributes to the development of new technologies and procedures, translational applications and research with a "bench-to bedside" approach. The Institute also serves as a base for new entrepreneurial activities involving intellectual property and has resulted in the licensing of products (e.g. software) and award of patents.

Institute faculty members are directly involved in an interdisciplinary graduate program in molecular and cellular toxicology (see below). This program is designed to provide education and experience in the application of molecular and cellular techniques to basic problems in toxicology. Institute faculty also participate in graduate teaching and training in several other graduate programs, including cancer biology, integrated biomedical sciences, pharmacology, hematology/oncology and pharmaceutical sciences.

## — Graduate Programs in Molecular and Cellular Toxicology

*Office:* Institute of Environmental Health Sciences,  
2727 Second Ave., Room 4000  
*Program Director:* Dharam P. Chopra, Ph.D.  
e-mail: [d.chopra@wayne.edu](mailto:d.chopra@wayne.edu)

The following programs are offered through the Graduate School, with the cooperation of the Institute of Environmental Health Sciences and the participating departments indicated below: Master of Science (Interdisciplinary) in Molecular and Cellular Toxicology; Doctor of Philosophy (Interdisciplinary) in Molecular and Cellular Toxicology.

The objective of this interdisciplinary program is to provide students with a comprehensive education in theoretical principles and experimental research in molecular and cellular toxicology, resulting in the award of a doctoral degree. Graduates will have gained a broad understanding of fundamental principles underlying modern molecular and cellular biology as applied to toxicology/environmental health science, and an in-depth knowledge in the use of these approaches within an area of specialization in toxicology/environmental health science. Graduate research opportunities emphasize the molecular and cellular mechanisms of chemical-induced cell injury, including cell growth, proliferation and differentiation, gene expression, signal transduction, carcinogenesis, and immunomodulation in animal and human cells. Techniques and approaches include cell culture, plasmid engineering and expression, gene transfection and expression, PCR, western and northern blotting, PCR, cloning, transgenic/gene knockout animals, epigenetics, confocal microscopy, fluorescence activated cell sorting, global gene and miRNA expression profiling, DNA methylation and transcription factor profiling by microarray analysis, bioinformatics, LC/MS/MS identification of proteins and post-translational modifications and manipulation of signal-transduction pathways.

The doctoral program, which is designed to be completed in four to five years, is administered by the Institute of Environmental Health Sciences and includes participating faculty from the School of Medicine, the Eugene Applebaum College of Pharmacy and Health Sciences, and the Biological Sciences and Chemistry Departments of the College of Liberal Arts and Sciences and the Karmanos Cancer Institute. Requirements include required and elective courses, laboratory rotations, journal club, and seminars, as well as written and oral qualifying examinations, a dissertation describing the results of original research, and an oral defense of the dissertation. In the first year, students take courses and obtain research experience through rotations in the laboratories of two or more faculty members of their choice. After selecting a thesis advisor (by the beginning of the second year), students continue course work and perform preliminary research toward the degree. Qualifying examinations necessary for admission to Ph.D. candidacy are administered in the winter and spring-summer terms of the second year; following admission to candidacy, students engage in research-intensive activities.

## — Master of Science

The interdisciplinary master's degree program is not recommended for students new to the program, except under unusual circumstances; it is suggested as an option for students who do not complete the requirements for the Ph.D. degree. Students are recommended for the master's program by the thesis advisor or by the Graduate Program Director. Acceptance in the master's program must be approved by the Graduate Committee.

**Admission:** An admissions moratorium is currently in effect for this program.

**Scholarship:** All course work must be done in accordance with the regulations of the Graduate School governing graduate scholarship and degrees; see the section beginning on page 32.

## — Doctor of Philosophy

**Admission:** An admissions moratorium is currently in effect for this program..

**Scholarship:** All course work must be done in accordance with the regulations of the Graduate School governing graduate scholarship and degrees; see the section beginning on page 32.

**DEGREE REQUIREMENTS:** Candidates for this interdisciplinary Doctor of Philosophy degree must complete a minimum of ninety credits, including thirty-two credits in core courses, thirty credits in research and dissertation, and twenty-eight credits in electives.

Required Core Courses (selection) (Thirty-two credits required)

- IBS 7010 -- Biomedical Molecular Biology: Cr. 5
- IBS 7020 -- Biomedical Cell Biology: Cr. 5
- IBS 7030 -- Functional Genomics & Syst. Biology: Cr. 2
- IBS 7090 -- Biomedical Immunology: Cr. 2
- MTX 7010 -- Principles of Toxicology (PHC 7410) (BIO 7011): Cr. 3
- MTX 7500 -- Molecular and Cellular Toxicology: Cr. 3
- MTX 7700 -- Current Topics in Molec. and Cell. Toxicology: Cr. 1 (Max. 10)
- MTX 7710 -- Individual Studies in Molec. and Cell. Toxicity: Cr. 1-5 (Max. 9)
- MTX 7890 -- Seminars in Molecular and Cellular Toxicology: Cr. 1 (Max. 10)

**Elective Courses** (minimum twenty-six credits): The student's Plan of Work will be developed to select courses which provide the detailed scientific knowledge and laboratory experience necessary to develop sufficient expertise in the areas of research which the student will investigate.

**Qualifying Examinations** (written and oral): A written Qualifying Examination will cover material from all core (required) courses successfully completed to date. An oral examination will be administered to assess the student's comprehension of his/her research project.

**Dissertation:** Thirty credits in dissertation research are required in the Ph.D. program. This requirement is fulfilled by registration in MTX 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The remaining credits will be assigned to research or course work in accordance with the needs of the students and the requirements in the field of concentration. At least one cognate is required. Fifteen credits in research are required beyond the minimum Ph.D. program requirements.

**Assistantships and Research:** The program will provide financial assistance through fellowships, graduate teaching assistantships, and graduate research assistantships. Fellowships are awarded to students exhibiting outstanding academic qualifications and the potential for excellence in a research career. All students accepted into the graduate program are considered for financial assistance and no application forms are required. For further information, write: Program Director, Interdisciplinary Program in Molecular and Cellular Toxicology, Institute of Environmental Health Sciences, Wayne State University, 2727 Second Ave., Room 4000, Detroit MI 48201.

## GRADUATE COURSES (MTX)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 6890 Studies in Environmental Health for High School Teachers. Cr. 4

Offered for S and U grades only. Opportunities for practicing teachers to develop lesson plans for high school science classrooms that focus on techniques and skills necessary to work in biotechnology-related careers. (S)

### 6990 Directed Study in Environmental Health for High School Teachers. Cr. 2

Offered for S and U grades only. Understanding environmental health effects of toxicants that are present in the community around the high school. Teachers and their students visually identify and GIS map vacant lots and brownfields. (F)

### 7010 Principles of Toxicology. (BIO 7011) (PHC 7410) Cr. 3

Prereq: CHM 2260 and BIO 1510 or equiv. recommended. 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. (F)

### 7500 Molecular and Cellular Toxicology. Cr. 3

Prereq: BMB 7010 and PHC 6340 or equiv. recommended. Review of molecular and cellular mechanisms which underlie chemically-induced disease and injury. (Y)

### 7700 Current Topics in Molecular and Cellular Toxicology. Cr. 1 (Max. 10)

Prereq: consent of instructor. Offered for S and U grades only. Students present and critique recently-published manuscripts on a variety of topics, including cell signaling, apoptosis, mechanisms of regulation of gene expression, proteolysis, and DNA repair. (Y)

### 7710 Individual Studies in Molecular and Cellular Toxicity. Cr. 1-5 (Max.9)

Prereq: written consent of instructor. Laboratory experience in toxicology studies using state-of-the-art experimental approaches and instrumentation. (T)

### 7730 (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 (F)

### 7890 Seminars in Molecular and Cellular Toxicology. Cr. 1 (Max. 10)

Assigned readings and student presentations, faculty and outside speakers. (F,W)

### 8999 Master's Research and Direction. Cr. 1-8

Prereq: written consent of advisor. Research and direction for Master's degree thesis preparation. (I)

### 9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 10)

Prereq: consent of department. For Ph.D. program applicants. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### 9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5

Prereq: consent of dissertation advisor; Ph.D. candidate in department. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only. (T)

### 9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5

Prereq: consent of dissertation advisor; MTX 9991. Required in academic-year semester following 9991. Offered for S and U grades only. (T)

### 9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5

Prereq: consent of dissertation advisor; MTX 9992. Required in academic-year semester following 9992. Offered for S and U grades only. (T)

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: consent of dissertation advisor; MTX 9993. Required in academic-year semester following 9993. Offered for S and U grades only. (T)

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: consent of dissertation advisor; completion of 30 credits in MTX 9991-9994. Offered for S and U grades only. (T)

## Center for Excellence and Equity in Mathematics

1309 Faculty Administration Building; 313-577-3471

Director: Steven Kahn, Ph.D.

E-mail: [skahn@math.wayne.edu](mailto:skahn@math.wayne.edu)

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 four core programs: the WSU Math Corps, an outreach program serving Detroit middle and high school students; the WSU Middle School Math Program, which provides instructional and/or operational resources to middle school math departments; the Math Corps College Success Center, 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.

All Center programs are based on a shared commitment to excellence and to fostering a sense of community, and a conviction that all students have great potential for learning mathematics.

## Institute of Gerontology

87 E. Ferry St.; 226 Knapp Bldg.

Telephone: 313-664-2600; Fax: 313-664-2667

e-mail: [ioginfo@wayne.edu](mailto:ioginfo@wayne.edu)

Website: <http://www.iog.wayne.edu>

Director: Peter Lichtenberg, Ph.D., A.B.P.P.

The Institute of Gerontology was created in 1965 by the Wayne State University Board of Governors in response to a mandate by the State of Michigan. Its mission is to: 1) sustain a premiere program of behavioral and social research with a focus on aging and health among diverse social groups in varying social settings; 2) collaborate with faculty across Wayne State University, the State of Michigan, and globally to stimulate research and teaching on gerontology issues; 3) prepare tomorrow's leaders in aging research through mentorship in rigorous and nationally recognized pre- and post-doctoral training programs; 4) prepare practitioners, connect seniors and their families to current knowledge, and improve the lives of citizens through the Institute's colloquia series, continuing education, and community outreach education programs; and 5) build research, education, and outreach programs in aging that will stand the test of time by strengthening support of the Institute of Gerontology through community partnerships.

The Institute of Gerontology strives to contribute relevant research and education devoted to enhancing the quality of life of older people, especially those who reside in metropolitan Detroit and the State of Michigan. The interdisciplinary team of faculty partner with academic colleagues, trainees, community organizations, and citizens to better understand aging and health. It works to promote the integration of gerontology into the broader research, teaching, and service

activities of Wayne State University, and employs analytical and conceptual advances in the understanding of aging and related processes, with specific attention focused on health and health disparities in our urban environment.

For a description of the program leading to a Graduate Certificate in Gerontology see page 538.

## Cardiovascular Research Institute

1107 Elliman Building, 421 E. Canfield; 313-577-4630;

FAX: 313.577.8615

Director: Karin Przyklenk, Ph.D.

Website: <http://cvri.med.wayne.edu/index.php>

The Cardiovascular Research Institute (CVRI) was chartered in August 2009 with the mission of establishing a nationally and internationally recognized center of excellence for the study of cardiovascular pathophysiology and disease. The hallmarks of the CVRI are collaboration and innovation: the institute serves as a nexus for cardiovascular investigators from a broad range of disciplines and departments within Wayne State University's School of Medicine with interests and expertise encompassing the continuum from basic molecular and cellular biology to clinical application.

The CVRI and its member-faculty are dedicated to conducting state-of-the-art translational research that is at the forefront of cardiovascular science. Areas of research strength include: myocardial ischemia-reperfusion injury and cardioprotection; cerebral ischemia and stroke; heart failure; thrombosis, and platelet aggregation and coagulation. In addition, the CVRI is committed to providing a robust and productive multi-disciplinary training environment for the next generation of leaders in cardiovascular medicine.

## Center for Health Research

319 Cohn Bldg., 5557 Cass Ave.; 313-577-5724;

Fax: 313-577-5777

e-mail: [n.artinian@wayne.edu](mailto:n.artinian@wayne.edu)

Website: <http://www.nursing.wayne.edu/faculty/health-research.php>

Director: Nancy T. Artinian, Ph.D.

The Center for Health Research is a college center with a mission to enhance and extend the research activities of the College of Nursing. In pursuing the Center's mission, faculty and graduate students conduct nursing research, which develops knowledge to: build the scientific foundation for clinical practice; prevent disease and disability; manage and eliminate symptoms caused by illness; and enhance end-of-life and palliative care.

The Center's mission is to support faculty and graduate students in the development and conduct of research and scholarly activities that advance nursing science. The Center functions to: create a research environment that promotes learning and scholarship; enhance research productivity; and assist faculty and graduate students in securing external funding to support research.

The center staff is dedicated to the delivery of services to increase the development of faculty and scholarship. Many activities are offered to support this mission: (a) pre-award support services including research grant planning and development, budget preparation, statistical consultation, pre-submission reviews and grant submission; (b) post-award support services including facilitation of project start-up, and budget management assistance; (c) management of internal research funding processes; (d) dissemination of faculty and student research accomplishments; (e) facilitation of scholarly seminars and workshops throughout the year; and (f) consultation from visiting scholars, senior nurse researchers, statisticians, and editors.

## C.S. Mott Center for Human Growth and Development

275 E. Hancock; 313-577-1337; Fax: 313-577-8554  
*Director:* Robert J. Sokol, M.D.

The Mott Center was established in 1973 for the purpose of conducting basic and applied research in the areas of biomedical reproductive sciences. Its mission is to advance research and research training in women's and children's health, focusing on reproductive biology, toxicology and perinatal medicine. The Center's objectives are to conduct basic and clinical research and research training in: 1) developmental biology, developmental disorders, preterm birth, pre-eclampsia, perinatal and neonatal physiology; 2) reproductive toxicology, teratology and the effects of drugs and environmental pollutants on pre- and postnatal life; 3) the etiology, mechanism and treatment of human genetic diseases; 4) developing new technologies in fertility/infertility and contraception; 5) changes and problems associated with reproductive and related mechanisms across the life cycle, as well as management and treatment relevant to these changes; and 6) undergraduate and postgraduate education in human growth and development.

The Center is situated in a recently renovated state-of-the-art free standing physical plant which houses primarily faculty and staff from the Department of Obstetrics and Gynecology, School of Medicine. It is utilized to support the basic research activities of this department, as well as work in conjunction with departments across the University, including Psychiatry, Pediatrics, Computer Sciences and the Merrill Palmer Skillman Institute. Obstetrics and Gynecology faculty at the Mott Center also work in close association with basic science and clinical departments within the School of Medicine and with Hutzel Women's Hospital and other clinical facilities in the Detroit Medical Center and the Henry Ford Health System. In addition, the Mott Center provides laboratory facilities to support the basic research activities of the Perinatology Research Branch (PRB) of the National Institute of Child Health and Human Development, National Institutes of Health, and houses the Wayne State University Applied Genomics Technology Center along with substantial epigenomics and bioinformatics capacity. In addition the Mott Center houses the new Clinical Research Center that serves the needs of the University's translational research program.

As the basic research hub of the Department of Obstetrics and Gynecology, the Mott Center also supports the graduate teaching activities of this department. A new graduate program has been established - the Graduate Program Concentration in the Reproductive Sciences. This is an integrated Ph.D. program incorporating the teaching, research and physical resources of two departments - Obstetrics and Gynecology and Physiology - at the Wayne State University School of Medicine. This graduate program offers interdisciplinary doctoral-degree training in the reproductive sciences with the Ph.D. degree earned through the Department of Physiology. The program's integration into the Department of Obstetrics and Gynecology allows students the unique opportunity to obtain a Ph.D. in a clinical environment. Reproductive scientists and physiologists from both departments guide graduate students through their course work and research training. The curriculum focuses on education and research training in reproduction and development including genomics, proteomics, molecular biology and bioinformatics. Dissertation research is typically performed in the basic science laboratories at the Mott Center under the mentorship of Obstetrics and Gynecology faculty who hold a Ph.D.

## Humanities Center

2226 Faculty/Administration Building; 656 W. Kirby  
Telephone: 313-577-5471; Fax: 313-577-2843  
*Director:* Walter F. Edwards, Ph.D.  
*E-mail:* 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.

## Cohn-Haddow Center for Judaic Studies

2311 Faculty/Admin. Bldg., 656 W. Kirby; 313-577-2679;  
Fax: 313-577-8136  
e-mail: [cohnhaddowcenter@wayne.edu](mailto:cohnhaddowcenter@wayne.edu)  
Website: <http://www.judaicstudies.wayne.edu/>  
Director: David Weinberg, Ph.D.

Established in 1988 as a cooperative venture between Wayne State University and the Jewish Foundation of Metropolitan Detroit/United Jewish Foundation, the Cohn-Haddow Center embodies the fruitful relationship that has long linked the University to the metropolitan Jewish community. As such, it is a model for universities and Jewish communities in a dynamic urban setting. The Cohn-Haddow Center serves as a resource to the University and to the larger community in Jewish studies and related areas. It sponsors a broad array of programs and activities related to several of the University's wide-ranging missions. From biannual international conferences to smaller symposia, incidental lectures, and broadly-defined cultural events, the Cohn-Haddow Center has introduced the University and community to some of the world's most distinguished academics and eminent writers, poets, artists and musicians.

## Confucius Institute

5057 Woodward, Suite 11204; 313-577-0153; Fax: 313-577-6929  
e-mail: [ci@wayne.edu](mailto:ci@wayne.edu)  
Website: <http://www.clas.wayne.edu/ci/>  
Director: John Brender, Ph.D.

The Confucius Institute held its grand opening in January 2008 and was established to promote Chinese language and culture in south-east Michigan and to establish educational ties with China. With support from Hanban: Chinese Language International, there are over 60 Confucius Institutes in the United States and over 260 worldwide. While some Confucius Institutes are dedicated to Chinese art, music, distance learning and other specialty areas, the Confucius Institute at Wayne State University provides programmatic support to K-12 teachers and schools, the Wayne State University community, and to various professional groups.

K-12 programs include K-12 outreach, after school programs, a three-week summer camp, an annual Chinese quiz bowl, Chinese language testing, and facilitation of a two-week summer program in China. At the university level, the WSU-CI facilitates study-abroad opportunities in China, including a summer service learning program to rural areas. Additional campus resources include a Chinese language and culture learning community, sponsorship of Chinese musical performances, a Chinese resource library, and a weekly Confucius Cafe featuring lectures and opportunities to practice Chinese. At the professional level, the WSU-CI hosts an annual Chinese language and culture teaching conference, provides a website for Chinese teachers to share lesson plans, sponsors and produces relevant TV documentaries, and co-sponsors quarterly Chinese business forums at Tech Town, Detroit's premier business incubator. The WSU-CI also works with the College of Education to promote the WSU Chinese teacher certification program and with its sister school,

Huazhong University of Science and Technology, to promote exchange and joint degree programs.

## Labor Studies Center

3178 Faculty/Administration Building; 313-577-2191;  
Fax: 313-577-7726

Director: Gayle Hamilton

Website: <http://www.clas.wayne.edu/lsc/>

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.

## Institute for Learning and Performance Improvement

375 Education Bldg.; 313-577-6674; Fax: 313-577-1693  
e-mail: [iguerra@wayne.edu](mailto:iguerra@wayne.edu)

Website: <http://www.ilpi.wayne.edu/>

Director: Ingrid Guerra-López, Ph.D.

The mission of the Institute for Learning and Performance Improvement (ILPI) is to improve community, organizational, and individual performance in the workplace. To this end, one of ILPI's aims is to bridge research and practice through the application of systematic and scientific processes for measurably improving performance. Therefore, ILPI offers rigorous performance improvement methodologies that are based on empirical evidence, and have the scalability and flexibility to fit a variety of contexts and situations in private and public sectors. ILPI personnel are internationally recognized experts in their fields with both theoretical and applied experience in a variety of areas including: strategic planning and management; needs assessment and evaluation; performance measurement and management systems, including dashboard design; change creation and change management; business incubation; training and development, including interactive technologies; leadership coaching; and customer and employee surveys. The benefits targeted by ILPI are measured through several important indicators, including:

### ORGANIZATIONAL BENEFITS

- Increased productivity, efficiency, personnel competence, and profitability
- Reduced costs and improved image in the community and customer satisfaction

### COMMUNITY BENEFITS

- Improved quality of life, self-sufficiency and resident satisfaction
- Business and job creation
- Educational attainment and health promotion

## School of Medicine Ligon Research Center of Vision

Ligon Research Center of Vision, 4717 St. Antoine; 313-577-9136  
e-mail: [lignoncenter@med.wayne.edu](mailto:lignoncenter@med.wayne.edu)

Website: <http://www.kresgeeye.org/?id=78&sid=1>

Director: Gary Abrams, M.D.

The Ligon Research Center of Vision was chartered in 1999. The Center was founded by a gift from philanthropist Robert Ligon, with the mission to restore vision in the blind through the creation of artificial vision. The Center conducts interdisciplinary research on the neurobiology, biotechnology and physiology of prosthetic vision in the blind. A current emphasis is on the development, design, testing, and insertion of retinal implants which produce visual impulses to be transmitted to existing retinal elements in patients blinded by photo-receptor degenerative diseases. The Center is also working on novel methods of drug delivery to delay or prevent loss of vision in patients with retinal degenerative diseases.

The Center has a program to design, test, and implant a cortical visual prosthesis. The cortical implant, to be placed in the visual cortex of the brain, will be electrically stimulated to create a visual image. The cortical implant will have broad applicability in blinding conditions such as glaucoma, diabetic retinopathy, and trauma in which the retina and/or optic nerve are damaged to the extent that a retinal implant would not be helpful.

Faculty members from the Department of Ophthalmology and from the College of Engineering participate in the Center. Kresge Eye Institute faculty members play an active role in prosthesis design and ultimately insertion of such retinal visual prostheses into patients. Future work will include: characterization of the cortical response to electrical stimulation of the retina; design of systems to create accurate spatial and temporal cortical responses to electrical stimulation of the retina that simulate normal visual stimuli; prevention of inflammation induced by implanted devices and enhancement of activity of electrodes in the tissue by the use of microfluidic channels in the electrodes and delivery of neuro-transmitters and neuro-protectants.

## Manufacturing Information Systems Center

328.02 Prentis Bldg., 5201 Cass Ave.; 313-577-4545;  
Fax: 313-577-5486

e-mail: [aragowsky@aol.com](mailto:aragowsky@aol.com)

Website: <http://business.wayne.edu/article.php?id=105>

Director: Arik Ragowsky, Ph.D.

The Manufacturing Information Systems Center was chartered in 2000. Its mission is to enhance and extend the School of Business Administration's involvement with Enterprise Resource Planning (ERP) systems research, and place it at the front of information systems and ERP research. The Center conducts interdisciplinary research on the use and value of ERP systems to the manufacturing industry and on methods of using information systems for management and competitive purposes.

Another goal of the Center is to link research to real life and to address the business community's needs. For this purpose, the Center research staff collaborates with the business community and provides the respective participants with the research findings in order to help them to efficiently plan and use their ERP and other information systems for better operation, management, and competition. For this purpose, a new initiative with colleagues from Oakland University and Drexel University (Philadelphia) has been undertaken: a CIOs club that will have three or four roundtable sessions per year for discussing important issues. After deciding upon a topic, the professors conduct research on this subject for presentation at the beginning of a subsequent discussion. Later, the professors moderate the CIOs discussion. The purpose of this club is to enable the CIOs to discuss significant topics among themselves and to learn from each other, as well as to enhance students' learning and to provide faculty and students with material for scholarly publications and presentations, both in basic and applied research. So far the club has held two discussions, and the participants were very pleased and encouraged us to continue. In response to the economic crisis the club has started to involve organizations from other industries as well (not only manufacturing) like finance, green energy, and government.

The Center involves students in its activities. The Center organizes projects for students in real life organizations where the students can practice theory taught in class. For this purpose, the Center works with the Lear Corporation and conducts projects with fourteen of Lear's plants. Students gain significant knowledge and experience, the participant plants learn how to better use information systems in general and ERP in particular, and the Center faculty members prepare academic papers based on these case studies.

These types of activities expand the visibility of the University and the School of Business Administration in the business community, and mutually benefit businesses, students and research activities.

## Merrill-Palmer Skillman Institute for Children and Families

71 East Ferry Ave.; 313-664-2500; Fax: 313-664-2555

e-mail: [mpsi@wayne.edu](mailto:mpsi@wayne.edu)

Interim Director: Peter Lichtenberg, Ph.D.

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 pre-natal 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.

### — Certificate in Infant Mental Health

The University offers a twenty-two credit Interdisciplinary Graduate Certificate in Infant Mental Health that is administered by the Institute. The certificate may be obtained concurrently with a graduate degree in one of the following areas: education, nursing, psychology, or social work; or it may be obtained independently by students already having a master's or doctoral degree in one of these areas.

**Admission:** There is currently an admissions moratorium in effect for this program. Copy printed herein describes requirements applicable to current registrants in the program. Admission is contingent upon admission to the Graduate School (for requirements, see page 18) and acceptance by the Certificate Admissions Committee. Applications are available through the Institute. Among the criteria for admission are recommendations by students' degree-program department, acceptable grade point average, and a background in child development.

#### CERTIFICATE REQUIREMENTS:

1. *Academic Standards:* Students in the certificate program must maintain a grade point average of at least 3.0.
2. *Course Work:* Completion of twelve credits in designated graduate courses in infant development, infant assessment, family dynamics, intervention techniques in infant mental health, and special issues in infant mental health.
3. *Field Work:* Each graduate student must complete a ten-credit supervised field assignment. Each student will be assigned to an

appropriate field setting for observation, assessment, and intervention experiences with infants, toddlers and families, as well as participation in weekly supervision and a bi-weekly group seminar throughout the year. The assignment is designed for working students and professionals, as well as for full-time graduate students. It requires a minimum of ten and a maximum of twenty hours of work/study each week, and extends for two or three semesters. The field work is designed to satisfy both the certificate requirement and the field work requirement of the student's individual degree-program department or college.

## Center for Molecular Medicine and Genetics

3127 Scott Hall; 540 E. Canfield; 313-577-5323; Fax: 313-577-5218

e-mail: [l.grossman@wayne.edu](mailto:l.grossman@wayne.edu)

Website: <http://cmmg.biosci.wayne.edu/>

Director: Lawrence I. Grossman, Ph.D.

The Center for Molecular Medicine and Genetics conducts and fosters interdisciplinary health-related research and research training in two focal areas of molecular biology:

- 1) Structure and function of macromolecules: chemical synthesis and analytical characterization of nucleic acids and protein products with scientific and commercial potential; and genetically-engineered products with new or improved functions.
- 2) Structure and function of human, viral, mitochondrial and other genomes; DNA sequences of genes and their regulatory regions; genetic and physical maps of simple and complex genomes, with emphasis on those important in human health and disease.

The Center also has an accredited Genetic Counseling Graduate Program (M.S. in Genetic Counseling).

The research and research training activities promoted by the Center involve its own research faculty and faculty from at least twelve departments throughout the University. The Center is supported by the University's Research Excellence and Economic Development Fund.

## Institute for Organizational and Industrial Competitiveness

5201 Cass Ave., 214 Prentis Building, 313-577-4484;

Fax: 313-577-2253

Executive Director: David Williams, Ph.D

Director: Larry L. Fobes

The Institute for Organizational and Industrial Competitiveness grew in response to the circumstance that all private sector firms, particularly in the manufacturing industries, face strong and increasing competitive pressures in the areas of production, regulation, technology, and human resource utilization as global trade continues to expand at its fierce pace. The Institute facilitates discussions with major corporate executives, experts in Michigan Economic Development, and state and national policy makers.

The Institute's highly visible initiatives have included:

Co-production, with Detroit Public Television, of a weekly television series, *Leaders on Leadership*. Now in its third broadcast season, the Emmy award winning program explores leadership with people who practice it. Past guests have represented all sectors and viewpoints and include the Chair of Gateway Computers, the past US Secretary of Treasury, the Chairman of Domino's Pizza, the President of Ford Motor Company, and many others. The show is seen in Michigan, Oklahoma, coast-to-coast in Canada, and Hong Kong.

Leading the WSU planning team to host two days of global conferences inside the U.S. Pavilion of the Aichi (Japan) World Expo in 2005. Speakers and participants represented about a dozen nations, and included a Nobel laureate, members of Japan's national government, industry people from U.S./Canada/Mexico, Japan, China, and

Korea. Industries represented academia, nanotechnology, the global media, national government, 'think tanks,' automotive, staffing and many other industries.

Co-teaching and co-developing a series of M.B.A. level leadership courses focusing on strategic leadership concepts, and personal leadership assessment and development. The courses link to the 'Leaders on Leadership' television program (see above), and are designed to be reciprocally complementary. Uniquely, one of the leadership courses includes both traditional MBA students and corporate executives, registered as university guest students, in the same class. They learn from, and are challenged by, each other, and both benefit from the senior leadership insights of Leaders on Leadership programs used as live case studies.

## Center to Advance Palliative-Care Excellence (CAPEWAYNE)

4201 St. Antoine, Suite 5C-UHC; 313-577-5751; Fax: 313-745-4710  
e-mail: renatak@wayne.edu

Website: <http://www.capewayne.med.wayne.edu>

Director: Robert J. Zalenski, M.D., M.A.

*Director:* Robert J. Zalenski, M.D., M.A., FACEP  
(313) 966-7679; e-mail: rzalensk@med.wayne.edu

*Associate Director for Research:* Margaret Campbell, Ph.D., R.N.  
(313) 745-3271; FAAN; e-mail: mcampbe3@dmc.org

*Associate Director for Humanities:* Richard Raspa, Ph.D.  
(313) 577-6208; e-mail: aa2267@wayne.edu

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(313) 577-4342; e-mail: mstellini@med.wayne.edu

*Executive Facilitator:* Denise Waselewsky, M.T.  
(313) 745-4350; e-mail: dwaselew@med.wayne.edu

*Program/Project Coordinator:* Renata Osko, M.B.A./H.C.M.  
(313) 745-9880; e-mail: RenataK@wayne.edu

### Instructors

Richard Raspa, Ph.D., Department of English;  
(313)-577-6578, e-mail: aa2267@wayne.edu

Robert Zalenski, MD, Department of Emergency Medicine;  
(313)-966-7679, e-mail: rzalensk@med.wayne.edu

CAPEWAYNE is an inter-disciplinary 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.

**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.

## Center for Social Work Practice and Policy Research

Thompson Home, 4756 Cass Avenue; 313-577-4431;  
Fax 313-577-8770

*Director:* Joanne Soback, Ph.D.

Website: <http://www.research.socialwork.wayne.edu>

Chartered in 2008, the goals of the Center for Social Work Practice and Policy Research are to: 1) conduct research that advances social work practice and policy in settings that range from urban neighborhoods to international contexts; 2) develop relationships with the purpose of identifying and expanding research opportunities and promoting Center sustainability; and 3) foster a commitment to the dissemination of findings that inform social work practice and expand the body of social work knowledge.

The Center fosters a culture for research within the School of Social Work by creating an infrastructure of resources for faculty scholarship and research. Strategies range from idea generation meetings to writing groups to post-award grant support. In addition, the Center facilitates opportunities for faculty and staff engagement with community partners. The Center strongly believes in using interactive processes where researchers, practitioners and administrators can find new ways to work together, generate innovative ideas, share knowledge and solve problems. Through our Strategic Partners Project and other Center activities, the School of Social Work continues to demonstrate its commitment to the Detroit area, researching and developing real solutions for real world problems. To this end our faculty and staff are engaged in evaluation research, grant writing, instrument development and other service projects with community agencies.

Translating research and disseminating social work knowledge among practitioners is critical. The Center implements a variety of strategies to synthesize recent research findings into serviceable formats for practitioners including an enhanced web page, forums, e-blasts and researcher-practitioner dialogue meetings. Learning communities are also provided for students interested in applying research methods to social work contexts.

## Center for Urban Studies

5700 Cass Avenue, Room 2207 Academic/Administration Building;  
313-577-2208; Fax: 313-577-1274

*Director:* Lyke Thompson, Ph.D.; e-mail: ad5122@wayne.edu

*Managing Director:* Charo Hulleza, M.P.A.

Email: c.hulleza@wayne.edu

Email: CUSinfo@wayne.edu

*Website:* <http://www.cus.wayne.edu>

The Center for Urban Studies improves understanding of and provides innovative responses to urban challenges and opportunities. The Center conducts and disseminates research, develops policies and programs, and provides training, capacity-building, and technical assistance. The Center participates in defining and influencing local, regional, State, and urban policy. It engages community, government, institutions, and policy makers, in collaboration with University faculty and resources, to transform knowledge into action. Committed to serving Detroit and its metropolitan area, the Center exemplifies Wayne State's urban research and service mission. The Center employs a highly trained multi-disciplinary team consisting of social science Ph.D. and master's-level researchers, as well as WSU graduate and undergraduate students.

The Center is organized into nine specialized programs:

**Michigan Metropolitan Information Center (MIMIC):** a university research and service program specializing in tracking and portraying demographic trends in urban population and housing in southeastern Michigan; MIMIC provides technical support to research projects, offers services to the general public and produces Geographic Information System (GIS) maps that assemble, store, manipulate and display geographically referenced information according to location.

**Survey Research:** The Center conducts survey research for a variety of public and private institutions; data is collected through telephone interviews, mail and online questionnaires, focus groups, in-person interviews, and participant observation; staff also provides



technical assistance in areas such as sampling design, data collection and processing, and statistical analysis.

**Evaluation Research:** Program evaluation is conducted for a variety of public and private institutions; Center staff provides program assessments through process, formative, and outcome evaluations informed by clients' feedback regarding their needs.

**Urban Safety Program** conducts research to explain differences in community crime rates and evaluation studies that examine the impact of public policy responses to crime. It also conducts data analysis and research on current best practices and model programs to inform local policy-makers; and represents a collaboration among Detroit metropolitan area organizations in providing community education to prevent youth crime and to empower neighborhoods. Its other program activities include conducting applied research on crime and safety issues in Detroit and Wayne County.

**Early Childhood and Disabilities Research** evaluates the implementation and impacts of intervention systems for individuals with disabilities; provides policy recommendations for improvements; and conducts research on family and community supports for individuals with disabilities.

**Community Development Research** fosters stabilization and revitalization of urban communities by enhancing understanding of key community development issues and improving the programmatic capacity of governmental and nonprofit organizations.

**Crime and Justice Research** conducts studies to examine the quality and delivery of criminal justice services in both institutional and community-based corrections, to advance knowledge on the nature of criminal behavior, and to assist in the practical improvement in the quality of corrections.

**Environmental Justice Research** conducts research that helps protect urban communities by identifying potential solutions to environmental health hazards that may be disproportionately affecting minority and/or low-income populations.

**Urban Health Research** conducts research that promotes interdisciplinary teams with complementary skills and expertise in both basic and applied community health research in areas such as health disparities, substance abuse prevention and other public health issues.

## Douglas A. Fraser Center for Workplace Issues

Walter P. Reuther Library, 5401 Cass Ave., 313-577-5382;  
Fax: 313-577-5359  
e-mail: [marickm@wayne.edu](mailto:marickm@wayne.edu)  
Website: <http://www.clas.wayne.edu/fraser/>  
Director: Marick F. Masters, Ph.D.

The Douglas A. Fraser Center for Workplace Issues is a core part of Labor@Wayne. It was chartered by the University Board of Governors in 1998 to honor Douglas Fraser, former president of the United Automobile Workers (UAW). The Center has been endowed by major gifts from the UAW, General Motors Corporation, Chrysler Corporation, and Ford Motor Company, and generous gifts from many other organizations and individuals, including the United Steelworkers of American. The mission of the Fraser Center is to generate knowledge and information about best practices in the workplace through effective union representation. The Center is guided by the advisory Board of Labor@Wayne. It sponsors annual forums on Labor Leaders on Labor, Trends in Labor and Employment Relations, and Public Policy; develops panels of academic and practical expertise on workplace issues in the manufacturing, health care, public sector, transportation, and service industries; sponsors special conferences and forums, such as the summit in Washington D.C. in September 2009 on Engaging Federal Employees Through Their Unions to Improve Agency Performance; and produces "white papers" and organizes academic-oriented conferences on workplace issues.

# Campus Life

## Dean of Students Office

351 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 new student convocation, homecoming, student organizations day, and the finals week late night breakfast. The office coordinates the campus calendar of student activities for WSU's celebration of Black History Month. The office also coordinates leadership development programs; advises fraternities and sororities; presents student volunteering opportunities, and promotes student involvement in co-curricular life at Wayne State. The University Student Conduct Officer is housed in the Dean of Students Office.

**Student Organizations:** There are over 350 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 Warrior Net News.

**The South End**, the official student newspaper, is published weekly during the academic year.

**Parents' Information Network and Parents Advisory Council:** The Dean of Students Office coordinates the Wayne State Parents' Information Network. Through this association, parents can attend special orientations receive newsletters, and also have available the parents hotline: 1-877-WSU-PARENT. The office may be e-mailed at: [parents@wayne.edu](mailto:parents@wayne.edu).

## Office of Housing and Residential Life

598 Student Center; 313-577-2116  
Website: <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.

**Ghafari Hall and Atchison Hall**, opened in 2002 and 2003 respectively, offer a state-of-the-art living environment for both first-year and upper-class students. These facilities offer one-bedroom units with private baths for one or two people, on-site dining, laundry and retail as well as free Internet access, cable connections and wireless internet. The reception areas are staffed twenty-four hours each day.

**Towers Residential Suites:** Opened in 2005, this facility features suite-style accommodations, with one-, two-, three- and four bedroom units with a shared bath and common living area. Separate floors of Towers Residential Suites are reserved for graduate students. The Towers has fitness facilities, laundry rooms, free internet access, cable connections, wireless internet, study and social lounges, and retail and convenience stores. On the first floor is the

Towers Cafe, a 400-person cafe-style dining facility, open to residents and the campus community for breakfast, lunch, and dinner. The reception area is staffed twenty-four hours per day, and entry is by hotel-style card access.

**University Tower Apartments**, opened in 1995, is a 300-unit complex for graduate, undergraduate, and professional students and families, with one-, two- and three-bedroom units; the two- and three-bedroom units have two baths. University Towers has central air conditioning, a computer lab, an on-site child care center, wireless internet, and a twenty-four-hour reception desk.

**Helen L. DeRoy Apartments:** In a fifteen-story building built in 1972, 258 units are available for graduate and professional students and families; it includes efficiency, one-, and two-bedroom units (furnished or unfurnished) and has central air conditioning, wireless internet, laundry facilities, and a twenty-four-hour reception desk.

**Chatsworth Tower Apartments** offers graduate and professional students spacious efficiency, one-, and two-bedroom apartments in a graceful, nine-story facility built in 1929. Amenities include a twenty-four-hour reception desk, on-call maintenance, internet access, cable connections, laundry rooms, and vending machines. Some air conditioned units are available.

For more information and current pricing, contact the Office of Housing and Residential Life at 313-577-2116 or visit the Website: <http://www.housing.wayne.edu>

## Police/Public Safety Services

The Wayne State University Police Department (313-577-2222) patrols and services the University and 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. The police headquarters is at 6050 Cass; (313-577-2222).

**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, and Rape Aggression Defense Training. The Crime Pre-

vention Section also publishes monthly 'CampusWatch' articles. E-mail inquiries may be made to: [campuswatch@wayne.edu](mailto:campuswatch@wayne.edu)

Additional information is available on the department's website at: <http://www.police.wayne.edu>

## Primary Care Nursing Center

4B, University Health Service; 313-993-8640

The Campus Health Center provides comprehensive health care services for students, including physical examinations, pre-participation sports examinations, health clearance examinations for one of the professional schools, and/or annual women's wellness examinations, illness visits, travel health and immunizations (including flu, meningitis, hepatitis B, etc.). Visits are by appointment, but walk-ins are accepted for students experiencing an illness. 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. 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.

## Ombuds Office

798 Student Center Building; 313-577-3487

Website: <http://www.ombudsman.wayne.edu>

The Ombuds Office exists to support students in achieving their academic goals by providing assistance in accessing services and resolving 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 appropriate University services.

The Ombuds Office acts as a neutral party 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 appropriate.

The Ombuds Office is a safe place to ask for help. Confidentiality is maintained as appropriate and feasible based on individual student needs and desires.

The Ombudsperson is the Chairperson 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. 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.

## Student Senate

395 Student Center; 313-577-3416

Website: <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.

## 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

*Website:* WSUathletics.com

Wayne State University has a rich athletic tradition dating back to the fall of 1917 and recently celebrated ninety-four 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. Individual participants have been identified with recognition as national champions, academic All-Americans and All-Conference champions. The nearly 400 student athletes currently involved in competitive athletics have a combined grade point average 3.08. 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, golf, softball, men's and women's swimming, men's and women's tennis, and volleyball. Last season, nine out of sixteen programs competed in NCAA championships. The past ten years WSU Athletics has had its ten highest ratings in the annual NACDA Cup and in nine of the past ten years finished in the top 10% of the 295 institutions in Division II. The NACDA ranks the top overall competitive intercollegiate athletic programs in the country.

The University competes in both NCAA Division I and Division II. The other University athletic programs compete in the Great Lakes Intercollegiate Athletic Conference (GLIAC). Members of the GLIAC are: Ashland University, Ferris State University, University of Findlay, Grand Valley State, Hillsdale College, Lake Erie College, Michigan Technological University, Northern Michigan University, Northwood University, Ohio Dominican University, Saginaw Valley State University and Tiffin University. The fencing teams compete in the Midwest Fencing Conference with Ohio State, Notre Dame and Northwestern among the 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. The recently built Multi-Purpose Indoor 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 on: <http://wsuathletics.com>.

**The Matthaei Building** is normally open from 7:00 a.m. to 9:30 p.m., Monday through Friday; and is closed on Saturday and Sunday, during the fall and winter semesters. During the spring/summer semester the Building is open from 7:30 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. Locker and towel services are available for all affiliates. For additional facility information, visit the Matthaei Shop in the Matthaei Building; or call 313-577-4260 or 577-4295.

**Ticket and schedule information** is available at the Athletic Office, 101 Matthaei Building, 313-577-4280; or call the ticket office toll-free: 1-866-WSU-TIKS. For current information on WSU athletic teams (including ticket information), intramurals or recreation, visit the Website: ([WSUathletics.com](http://WSUathletics.com)). All men's basketball and football games are broadcast on the Warrior Radio Network at WDTK-AM 1400 and

are also available for free on the internet. Students are admitted free to all University-controlled WSU athletic events with a One Card.

**The Mort Harris Recreation and Fitness Center** is a state-of-the-art facility located in the heart of the campus, next to the Student Center and the libraries on Gullen Mall. It offers programs and services to meet the recreational, fitness, wellness and personal development needs of the campus community. The 78,000 square-foot Mort Harris Recreation and Fitness Center also features a concession area, a service center on the lower level with equipment check-out and towel rental, a family/disabled locker room, weight equipment specifically for use by disabled persons, weight equipment specifically for use by the disabled, men's and women's locker rooms with individual private showers, and day-use or semester rental lockers. The Mort Harris Recreation and Fitness Center is open Monday through Friday from 5:30AM -11:00PM and on Saturday and Sunday from 10:00AM - 7:00PM. Among its features are:

**Group Fitness Classes (non-credit)** include a variety of programming, conducted by trained, certified and experienced instructors and is available to meet individual needs, including traditional high/low aerobics, hip-hop, step, yoga, spinning, and stretch and tone.

**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, or socializing are also available.

**Intramural Sports Programs:** Intramural sports leagues are available for all WSU students. One day tournaments and leagues are available in a variety of sports, including basketball, volleyball, cricket, dodgeball, flag football, and more.

**Club Sports:** The Mort Harris RFC is also the home for all Club Sports. Students interested in starting up a particular club sports, are invited to consult our website, [rfc.wayne.edu](http://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.

**Fitness and Wellness Programs:** Nutritional counseling, health assessments, massage therapy and personal training programs for every level of fitness are available to all students and members.

**Climbing Wall:** Located in the MHRFC and all necessary equipment may be rented; structured classes and open-use periods 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, trial running, skydiving, skiing and snowboarding, fishing and mountain biking.

**Team Building Programming:** 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.

*Website:* <http://www.rfc.wayne.edu>

## Student Center Administration

*Director:* Michael Bowen

*E-mail:* [mbowen@busops.wayne.edu](mailto:mbowen@busops.wayne.edu)

573 Student Center; 313-577-3482

The Student Center is a unifying force in the life of the university. The Student Center Administration's mission is to provide a facility which will meet the educational, social, recreational, dining, program, and meeting-room needs of students, faculty and administration, alumni, and guests. The department has three components - program, ser-

vice, and facility - and operates in the tradition of college unions and the philosophical outlook of the Association of College Unions International. The Student Center provides a physical and intellectual environment in which students can develop individual, organizational, programming, and leadership skills, as well as experience personal growth.

**The Student Center** serves as the home away from home for thousands of students. It is the facility where friends meet to socialize between classes, where many catch up on class assignments, watch television, eat, or spend a leisure hour. The major components and services of the Student Center include:

**Programming** (313-577-4585): Throughout the academic year, Student Center Administration offers a variety of programs for the general student population. Some of these programs include: musical performances, dance opportunities, movies, bingo, Summer Kids Camp and other enjoyable activities.

**The Underground** is a lower level entertainment zone in the Student Center. This area includes an expanded game and entertainment zone, the Underground Grill, the VIP Room, the U Club, programs for students, TVs and lounges.

**Campus Information and Service Center**, (313-577-3568): The Campus Information and Service Center provides the following services for a fee: typewriter rental, duplicating service, SMART and DDOT bus tickets, laminating service, 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 in the CISC.

**Student Center Graphics**, (313-577-3730): This office provides 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.

**Grosberg Religious Center:** 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.

**Reservations Office**, (313-577-4585): Located in 573 Student Center, this office schedules rooms and audio-visual equipment available for meetings, seminars, conferences and special programs. Bake sale opportunities, literature table, and showcase information are also provided by this office.

## Food Service Facilities

A Pizza Hut, Taco Bell Express/KFC Express, McDonald's, and Subway are located on the first floor of the Student Center; in addition, there are restaurants throughout the campus. Satellite cafeterias are also located in Scott Hall and the basement of the Law Library. There are also vending machines in the Student Center and at other campus sites. Additional food options are provided by the Barnes and Nibble convenience store.

Catering services are provided at McGregor Memorial Conference Center and through the Student Center Reservations Office. Several non-University affiliated restaurants in the area offer additional variety.

### Academic Administration Building

AVI Food Services Cart

### Atchison Hall, Wayne Anthony Drive

Jimmy John's  
Salad 101

### David Adamany Undergraduate Library, Gullen Mall

Delilah's Deli

### Eugene Applebaum Building

AVI Food Services Cart

### Faculty Administration Building

AVI Food Services Cart

### Ghafari Hall, Wayne Anthony Drive

Einstein Bagels  
Starbuck's  
Warrior Grille

### Law School Building

AVI Food Services Cart

### Medical School Campus

Midtown Deli - Mazurek Medical Education Commons  
Vital Signs Café - Scott Hall

### Oakland Center

Delilah's Deli

### Parking Structure #6

La Pita Restaurant

### Student Center, Gullen Mall

McDonald's  
Pizza Hut  
Subway  
Taco Bell Express /KFC Express  
Underground Grille

### The Towers, Wayne Anthony Drive

The Towers Café  
Freshens

### 5057 Woodward Ave.

Gateway Deli

## Retail and Commercial Service Facilities

Wayne State University offers a wide variety of retail service providers on campus. From University Pharmacy to Salon X, there are friendly and helpful service providers conveniently located.

### Atchison Hall, Wayne Anthony Drive

Michigan First Credit Union ATM

### David Adamany Undergraduate Library

Michigan First Credit Union ATM

### Deroy Apartments

Campus Health Center

### Detroit Receiving Hospital

Michigan First Credit Union

### Eugene Applebaum Building

Fifth Third Bank ATM

### Faculty Administration Building

Michigan First Credit Union ATM

### Ghafari Residence Hall

Michigan First Credit Union ATM

### Law School Building

Michigan First Credit Union ATM

### Oakland Center

Michigan First Credit Union ATM

### Student Center, Gullen Mall

Barnes & Nibble - Convenience Store  
Comerica - ATM (first floor, South)

J.P. Morgan Chase Bank - ATM (lower level)  
Michigan First Credit Union Branch

#### **The Towers, Anthony Wayne Drive**

Barnes & Noble - Law School Books and Convenience Store  
FedEx Office  
Salon X  
University Pharmacy

#### **Welcome Center, 42 W. Warren Ave.**

Barnes & Noble - Bookstore & Starbucks' Cafe  
Fifth Third Bank ATM

#### **39 West Warren Ave.**

Subway

#### **5057 Woodward Ave.**

Andy's Convenience Store  
J.P. Morgan Chase Bank  
Michigan First Credit Union

## Faculty, Staff, and Visitor Parking

42 W. Warren, Welcome Center (8:30 a.m. - 5:00 p.m., Mon. - Fri.);  
313-577-3704

<http://www.parking.wayne.edu>

The University maintains numerous parking facilities available to faculty, staff and visitors on a fee basis. Generally, faculty and staff enroll in the assigned parking program and the current fees are paid through automatic payroll deductions. Once enrollment is accomplished, a permit is issued: a hanging tag, which must be displayed in the vehicle at all times while parked on campus. The employee One-Card or Proximity Card (available at Structure #8 only) will serve as the access card to the assigned parking area. Enrollees will be assigned a parking area as close as possible to their workplace. Assignment to some locations may require placement on a waiting list and an interim assignment to an alternate location.

Visitor parking is provided on either a guest/visitor card or cash use basis at the time of entry into a lot or structure. Visitor parking cards may be purchased from any OneCard dispenser located in various campus buildings or at the OneCard office. Visitors who wish to park on a cash basis must deposit \$3.50 (rates subject to change) in an entry gate cash acceptor located at the following: Structures 1, 2, 3, 5, and 6; Lots 11, 15, 23, 32, 36, 50, 60 and 75 (located on the Medical School campus).

## Health Insurance

Office of International Students and Scholars (OISS)  
416 Welcome Center; 313-577-3422; Fax: 313-577-2962  
*Website:* <http://www.oiss.wayne.edu>  
Health Insurance Advocate: 313-577-0724

Students may choose to purchase an injury and sickness insurance plan for a reasonable fee. The policy provides stipulated amounts for outpatient prescription drugs (sickness only), hospitalization, surgery and emergency room fees, alcoholism and drug abuse treatment, and psychotherapy benefits. Forms to purchase this insurance are available by contacting the Health Insurance Advocate in the OISS; telephone 313-577-0724.

# Student Academic Success Services

## Counseling and Psychological Services (CAPS)

522 Student Center Building; 313-577-3398, Fax: 313-577-9628

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. Please refer to <http://caps.wayne.edu> for more information.

**Service hours:** Monday - Friday 8:30 am to 5:00 pm; by appointment: Tuesday 5:00 pm to 7:00 pm. Registered WSU students may drop-in or call for an evaluation with a CAPS counselor Monday through Friday from 9:00 am to 5:00 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

## Student Disability Services (SDS)

1600 David Adamany Undergraduate Library; 313-577-1851;  
313-577-3365 (TTD: phone number for hearing impaired)  
Fax: 313-577-4898

**Service hours** are posted on our website at:  
<http://studentdisability.wayne.edu/>

SDS is the office at Wayne State University which coordinates reasonable accommodations and support services for qualified students with various disabilities and believes in preparing students to self-advocate to fulfill their academic goals. This office collaborates throughout the University to ensure academic and campus life accessibility.

**Disability Determination:** Students who have self identified their need for accommodations will have professional disability specialists available to assist them throughout their university career. With proper documentation the disability specialist verifies disability and develops appropriate accommodations in consultation with the student. Individualized prescribed accommodation helps facilitate accessibility to the student's academic goals and campus life at Wayne State University. It is the student's responsibility to give his/her accommodation letter to instructors in a timely manner so as to create a collaborative learning environment.

**Academic Accommodations:** Examples of academic accommodations are: consultation prior to University enrollment, priority registration, note-taking assistance, study rooms with adaptive equipment, alternative testing arrangements, alternate media, interpreters/CART reporters, and information on community resources. Also, many departments have liaisons who have undergone training whose responsibilities include mediating if accommodation issues should arise and assist faculty in developing universal instructional design.

**Adaptive Technology** resources are available to students with disabilities. SDS has adaptive computers and computer software which

are designed to assist students' reading and writing. Adaptive equipment and technology includes but is not limited to: closed-circuit TV's, JAWS, Dragon Dictate, Kurzweil 3000, Zoom Text, and FM systems.

**Community Agencies:** SDS works cooperatively with various community agencies that assist students with disabilities at the University. The agencies include but are not limited to: Michigan Rehabilitation Services, Commission for the Blind, and Disability Network.

## Testing, Evaluation, and Research Services

698 Student Center; 313-577-3400; Fax: 313-577-0617  
E-mail: [testing@wayne.edu](mailto:testing@wayne.edu)  
Website: <http://www.testing.wayne.edu/>

This unit houses the official University testing programs. On the undergraduate level, testing and evaluation services are provided to those students who need to take an entrance examination, course credit by examination via the computer-based College-Level Examination Program, department-based qualifying and placement examinations for course selection in Biology, Chemistry, English and Mathematics, as well as test-out options for some of the University General Education competency requirements.

On the graduate level, testing and evaluation services are provided to students for graduate and professional school admission, as well as for some certification and licensing purposes.

The office also houses a certified Educational Testing Service (ETS)/Prometric computer-based testing center for high stakes testing at the graduate and undergraduate levels, examples of which are the Graduate Record Exam (GRE) General Test, the Internet-based Test of English as a Foreign Language (TOEFL), and the Medical College Admission Test (MCAT).

Testing, evaluation and assessment-related support services are also provided to faculty and academic staff, and include scoring of teacher-made tests or qualifying examination data, consultation regarding test programs commercially available, and consultation on the construction of course examinations.

This office also tabulates and reports the results of the University-wide Student Evaluation of Teaching (SET) Program.

## Career Services

1001 Faculty/Administration Building; 313-577-3390; Fax: 577-4995  
Website: <http://www.careerservices.wayne.edu>

Career Services provides help 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 Programs:** 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 student. Job openings may be viewed in-house or on line via our open posting system.

**Professional Employment and On-Campus Recruiting:** 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, and a myriad of career-related support services.

## Office of Military and Veterans' Educational Benefits (OMVEB)

1600 Adamany Undergraduate Library;  
313-577-9180; Fax: 313-577-5020  
Website: <http://www.omveb.wayne.edu>

This office assists veterans, eligible dependents/survivors, reservists and National Guard members in obtaining 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), the Reserve G.I. Bill (chapter 1606), Post 9/11 G.I. Bill (Chapter 33), Reserve Educational Assistance Program, REAP (chapter 1607) V.E.A.P. (chapter 32), Vocational Rehabilitation (chapter 31), and the Survivors'/Dependents' Educational Assistance (chapter 35). All eligible students must officially request 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 OMVEB via an academic adviser the reason for enrollment (i.e., completing foundation courses for a master's-level program).

**Admission Fee Waivers:** Any applicant who has an honorable discharge (form dd214), from service in U.S. Armed Forces, may receive a waiver of the Undergraduate Admission Fee. Please be prepared to verify discharge with Admissions Counselor or VA Adviser during application process.

**Transfer Credits:** Wayne State University will give four transfer credits for veterans, reservists, and National Guard members for service in the U.S. military. The University will require military discharge document DD-214.

Wayne State University will accept up to twelve transfer credits from veterans upon receiving their respective branch transcripts 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, and National Guard 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 OMVEB for assistance.

**Licensing/Certification Reimbursement:** All students collecting under Active Duty GI Bill are eligible for reimbursement for any licensing test fees. Contact the OMVEB or visit <http://www.gibill.va.gov> for further information.

**Tutorial Assistance** is also available 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 OMVEB for further details. No charge to benefit entitlement is incurred for the first six months received of Tutorial Assistance.

**Active Duty Tuition Waiver:** A Waiver of Non-Resident Portion of (assessed) Tuition is available to military service personnel on active duty in Michigan, their spouses and dependent children. Eligible students must complete the student information and section II of *Request for Waiver of Non-Resident Portion of Tuition* form along with substantiating documentation of Active Duty status to the Registration and Scheduling Office, 5057 Woodward Ave., Room 5101, each term. The completed waiver must be submitted before the end of the first week of classes.

**VA Work-study Program:** The VA work-study 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 OMVEB will provide assistance as necessary with regard to grade and tuition certifications to your unit.

**Reserve Officer Training Corps (ROTC):** Wayne State University now offers an Army ROTC program. For information about ROTC, contact Captain Charles Caruana, Assistant Professor of Military Science, at (313) 577-2374 or ccaruana@wayne.edu.

**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 OMVEB. 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.

# Additional University Services

## COMPUTING & INFORMATION TECHNOLOGY DIVISION (C&IT)

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 at <http://computing.wayne.edu/about/org-charts.php>.

## WSU AccessID

Everyone at Wayne State has a unique identification code consisting of two letters and four numbers: their AccessID (ex. xy1234.). One's AccessID and password combination is key to accessing many University computing and networking services, such as Wayne Connect, WSU Pipeline and Blackboard. The AccessID is on the student/staff OneCard. Those who are new to Wayne State should use their AccessID and a temporary password, which is their nine-digit WSU ID number on the OneCard, for first-time log-in to Pipeline at <http://pipeline.wayne.edu>. They should then follow the instructions to change their password and set up their WSU email features and Broadcast Messaging preferences.

For AccessID or password assistance, call the Help Desk at (313) 577-4778. or visit <http://computing.wayne.edu/accessid>.

## Email and Communication Tools

**WAYNE CONNECT:** The University's Wayne Connect system is the official method of communication on campus. Its easy-to-use web interface, at <https://connect.wayne.edu>, integrates email with calendars, an online storage briefcase, tasks, and documents. Every account has ten GB of storage and includes real-time protection against spam and viruses. For more information, visit <http://computing.wayne.edu/email>

**BROADCAST MESSAGING:** This University-wide service delivers emergency alerts and other significant messages to faculty, students, and staff. Students/staff can choose how they want to receive WSU announcements: text on their cell, instant messages, and/or email at <https://broadcast.wayne.edu>. Faculty also can send messages to students in Blackboard courses.

**LISTSERV DISCUSSION LISTS** facilitate communication among a group of people who share a common interest. Faculty or staff can join a public list, subscribe to an existing list, or request a new list. For more information, visit <http://lists.wayne.edu>.

**WSU INSTANT MESSAGING SERVICE** enables easy, real-time messaging as well as secure file transfer. For more information, visit <http://computing.wayne.edu/im/>

## Academic IT Services

### Blackboard

Blackboard is WSU's course management and learning platform. Blackboard can be accessed at <https://blackboard.wayne.edu>.

The Blackboard system:

- delivers all or part of many regularly scheduled University courses;
- gives both students and faculty a secure location on the Web for course materials, e-Portfolios, and storing and managing files;
- enhances teaching and learning; and
- allows faculty to:
  - create tests offline for upload to your course (Respondus),
  - detects plagiarism (SafeAssign), and
  - stores student performance results (Grade Center);
- uses web conferencing for online classes or group sessions (Wimba Live Classroom).

Support for students is available inside Blackboard, or by contacting the C&IT Help Desk, (313) 577-4778 or [helpdesk@wayne.edu](mailto:helpdesk@wayne.edu).

Instructors can obtain assistance with the Blackboard by contacting C&IT's Blackboard Support Team at (313) 577-9457 or e-mail to [bbadmin@wayne.edu](mailto:bbadmin@wayne.edu). For consultation and workshops on using Blackboard effectively in teaching, contact WSU's Office for Teaching and Learning at (313) 577-1980 or e-mail [otl@wayne.edu](mailto:otl@wayne.edu).

For more information, visit <http://computing.wayne.edu/blackboard/>

## 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. For more information, visit <http://computing.wayne.edu/labs>.

## Grid Computing

WSU researchers with projects requiring high performance computing can use Wayne State University's scalable, Grid-enabled computing system. For more information, visit <http://www.grid.wayne.edu>.

## Technology Resource Center

Faculty and instructors can utilize the services in the convenient and friendly offices of WSU's Technology Resource Center (TRC) to design and develop instructional experiences for their classrooms and online teaching environments. For more information, visit <http://trc.wayne.edu>.

## Administrative IT Services

### Pipeline

This is the University's portal and Internet gateway on the Web: <http://pipeline.wayne.edu>. It provides the Wayne State community with secure access to all WSU online self-services:

- for employees: time sheets, pay stubs, benefits, leave balances, employment records, tax forms, and more;
- for faculty: class schedules and lists, submission of early assessment and final grades, and advisor functions;
- for students: admission application, registration, financial aid, tuition and fee payment, checking holds and final grades, obtain enrollment verifications and transcripts, run degree audits, and more;
- for campus announcements and events;
- for WSU computer systems (Wayne Connect email and calendars, Blackboard, OneCard, and Banner)
- for WSU resources, computing services, and the University Libraries' online system

For more information, visit <http://computing.wayne.edu/pipeline>

## Researcher's Dashboard

This Web-based, custom software seamlessly and intuitively integrates multiple administrative systems to aid researchers and grant administrators in managing the grant proposal process and funded grants. For more information, visit <http://spa.wayne.edu/post/dashboard.php>.

## Internet and Network Services

**INTERNET ACCESS:** Wayne State faculty, staff, and students can access the Internet and Wayne State's network from various locations. For more information, visit:

<http://computing.wayne.edu/internetaccess>.

## Research Networks: Internet2 and MiLR

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.

The Michigan LambdaRail (MiLR) is a very high-speed, special-purpose data network used in research and higher education. Created by Wayne State University, Michigan State University, and the University of Michigan, MiLR gives researchers access to ten Gbps Ethernet connections between the three universities, as well as national and international research and education networks.

WSU faculty, researchers, and graduate students can obtain more information about using Internet2 or MiLR by visiting:

<http://computing.wayne.edu/network/internet2.php>

## Computer Software

WSU students, faculty, and staff can download free software and buy discounted software at <http://clearinghouse.wayne.edu>.

For a current list of software that the C&IT Help Desk supports for use at Wayne State University, visit:

<http://computing.wayne.edu/software>.

## Computer Hardware

**Purchases and Discounts:** Those interested in making a computer hardware purchase are invited to visit C&IT's recommended hardware specifications and guides for buying laptop computers at <http://computing.wayne.edu/hardware>. Inquirers should pay special attention to the links offering educational discounts.

**Computer Repair Services:** If a personally-owned Windows PC or Mac crashes frequently or is unusually slow owners may want to consult the competitive prices for diagnostic and repair services at the C&IT PC Clinic on main campus (in the universe IT service center at 211 Student Center Building). For more information, visit:

<http://computing.wayne.edu/clinic>.

## Information Security

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. Here are ways for improving computer security at Wayne State:

- Read the University's policy on the Acceptable Use of Information Technology Resources at <http://wayne.edu/policies/acceptable-use.php>.

- Download full-featured Symantec Endpoint Protection software for free and install it on all of the personally-owned computers you use to



access WSU systems. Visit <http://clearinghouse.wayne.edu> for your free download.

- When working off campus, your connection to WSU's network is secure and encrypted when you use our VPN, the Virtual Private Network. For more information, visit <http://computing.wayne.edu/vpn>

For even more information, visit <http://computing.wayne.edu/security>

## Computer Support Services

C&IT Help Desk:

This is your starting point to get general IT support. The C&IT Help Desk is open 7 days a week (hours vary seasonally). Phone: (313) 577-4778; email: [helpdesk@wayne.edu](mailto:helpdesk@wayne.edu)

Universe IT:

C&IT's software sales and hardware repair service center is at 211 Student Center Bldg. Both the Software Clearinghouse (313-577-4060 or [clearinghouse@wayne.edu](mailto:clearinghouse@wayne.edu)) and the PC Clinic (313-577-5056 or [pcclinic@wayne.edu](mailto:pcclinic@wayne.edu)) are "inside" the universe IT service center.

For more information, visit <http://computing.wayne.edu/support/>

## C&IT Websites

Visit these other helpful Web sites:

KNOWLEDGEBASE at WSU: <http://kb.wayne.edu>

SYSTEM STATUS check (core WSU systems)  
<http://computing.wayne.edu/systemstatus>

C&IT HELP DESK: 313-577-4778 or:  
<http://computing.wayne.edu>

COMPUTERS:

On campus - <http://computing.wayne.edu/labs>  
Servicing - <http://computing.wayne.edu/clinic/>

INTERNET Wireless Access:

<http://computing.wayne.edu/wireless>

SOFTWARE Free and Discounted:

<http://computing.wayne.edu/software>

WAYNE CONNECT: WSU email, calendars and more:

Access: <https://connect.wayne.edu>

About: <http://computing.wayne.edu/email/>

PIPELINE

Access: <http://pipeline.wayne.edu>

About: <http://computing.wayne.edu/pipeline>

WSU POLICY: Acceptable use of IT resources on campus:

<http://computing.wayne.edu/about/policies.php>

## UNIVERSITY LIBRARIES

The Wayne State University Library System is a dynamic organization operating within the challenging and rapidly changing environment of today's information age. The Library System supports the education, research and service missions of the University and its communities through comprehensive, high-quality services and resources. The Library System is a leader in providing accurate, timely and Web-based information throughout the metropolitan Detroit area and Michigan. Scholarly materials in the University libraries total more than three million volumes, 18,000 journal subscriptions and a broad range of electronic resources, including e-books and electronic journals, many of which are available in full-text.

The Library System includes the David Adamany Undergraduate Library, the Arthur Neef Law Library, the Purdy/Kresge Library, the Science and Engineering Library, the Vera P. Shiffman Medical Library and its Learning Resource Center at the Eugene Applebaum College of Pharmacy and Health Sciences, and the Library Services Center at the Oakland Center in Farmington Hills. Also included are the School of Library and Information Science and the Office for Teaching and Learning.

All University libraries offer reference and research support, interlibrary loan, circulation and course reserve services, document delivery and library and information literacy programs. The libraries utilize and support the latest information technologies to provide state-of-the-art access to instructional and research materials. All undergraduate students are welcomed at all library facilities. The libraries provide a range of study environments - from silent to interactive -- and including a twenty-four-hour facility.

**Library Cards:** see WSU OneCard, page 31.

### David Adamany Undergraduate Library

Telephone: 313-577-8852

*Website:* <http://www.lib.wayne.edu/>

The David Adamany Undergraduate Library is designed to enhance and enrich the learning experience of undergraduate students by helping them to master the research skills necessary for academic success and for success as information-literate citizens. The library features over 500 computers, four instructional labs, a twenty-four hour study area, collaborative study rooms, 2,700 comfortable seats for study, course reserves, and hands-on opportunities for learning to use multimedia and electronic information resources. It also houses the Student Success Center, which includes University Academic Advising, the Academic Success Center and Student Disability Services (SDS), and the media collection that includes videos, CDs, DVDs and lecture tapes.

### Arthur Neef Law Library

Telephone: 313-577-3925

*Website:* <http://www.lib.wayne.edu/lawlibrary>

Wayne State University's Arthur Neef Law Library is located at the north end of the University main campus. Its collection of over 620,000 volumes makes it the second largest law library in Michigan. The library subscribes to over 1,500 journals and 1,000 loose-leaf services. An official depository since 1971, the library holds over 100,000 U.S. documents including 3,500 current serials. Students and faculty have access to the major legal databases and many digital collections.

In addition to complete collections of federal and Michigan legal materials, the library contains the statutes of all states and territories. The library owns major microform collections of U.S. government publications; colonial, state, and territorial session laws; and the U.S. Supreme Court records, briefs, and oral arguments.

## Purdy/Kresge Library

Telephone: 313-577-4042

Website: <http://www.lib.wayne.edu/>

The Purdy/Kresge Library is the primary research library for the social sciences, humanities, arts, education, and business disciplines at Wayne State University. The library provides access to books, periodicals, government documents, and numerous electronic resources. The Purdy/Kresge Library supports the research and instructional needs of faculty, graduate students, and upper-level undergraduates in these disciplines, as well as the information needs of the greater Detroit community.

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. The New Media and Information Technology Unit is located within the Purdy/Kresge Library, providing scheduling and operations to all aspects of library computing and classroom media support. This library is also the home of the Technology Resource Center, 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.

## Science and Engineering Library

Telephone: 313-577-4066

Website: <http://www.lib.wayne.edu/>

The Science and Engineering Library serves the College of Engineering, the College of Nursing, and the Departments of Biology, Chemistry, Physics, Mathematics, Computer Science, Nutrition and Food Science, Geology, and Audiology/Speech-Language Pathology in the College of Science. It also houses the computer lab that hosts the computer-based version of the Wayne State Mathematics competency course. The Science and Engineering Library has over 600,000 volumes and receives nearly 3,000 current serials. Special holdings include the System on Automotive Safety Information (SASI) collection, a unique resource for transportation research, as well as the River Rouge Collection, the Dubpernell Electrochemistry Collection, and a large map collection. The library also houses the Resource Services unit of the University Library System as well as the consortium offices of the Detroit Area Library Network.

## Shiffman Medical Library and Learning Resources Centers

Telephone: 313-577-1094

Website: <http://www.lib.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. Internet access, printing and photocopying services are identical to those found in all University Libraries. A Learning Resources Center focused on the daily information and computing needs of students of the Applebaum College is available Monday through Friday.

## Oakland Center Library Services Center

Telephone: 248-553-6632

The Oakland Center Library Services Center in Farmington Hills provides services such as document delivery, interlibrary loan, instructional sessions, and circulation of materials from main campus libraries. A small collection of course reserves and reference materials is available, as well as access to electronic resources.

## University Archives

Walter P. Reuther Library; 313-577-4024

The Wayne State University Archives was created by the University's Board of Governors in 1958. The collection 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 Archives' holdings of over 6,000 cubic feet include manuscripts, minutes, publications, photographs and reports. Extensive secondary material is arranged in subject and biographical files tracing the University's history from 1868 to present. 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.

## Archives of Labor and Urban Affairs

Walter P. Reuther Library; 313-577-4024; Fax: 313-577-4300

Website: <http://www.reuther.wayne.edu>

The Archives of Labor and Urban Affairs enjoys an international reputation as the largest and finest labor archives in the world. In all, the Archives has some 95 million documents in addition to 20,000 books, monographs, union publications and proceedings; 2,000,000 photographs; and 20,000 films and tape recordings. A unique portion of the holdings is the labor journal and newspaper collection, which has nearly 1,600 current and non-current titles dating from the late 1800s to the present. The Archives is housed in the Walter P. Reuther Library of Labor and Urban Affairs.

The Archives was established in 1960 to collect and preserve records of the American labor movement, related social, economic, and political reform groups, and twentieth century urban America. The Archives has since become the official depository for the inactive files of the United Auto Workers, the Congress of Industrial Organizations, 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, and many state and local labor organizations. Records have also been received from such 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. Many individuals who played leading roles in labor and urban affairs have also placed their papers in the Archives.

# School of Business Administration

INTERIM DEAN: Margaret L. Williams

# Foreword

The School of Business Administration is a professional school concerned with the theory and practice of business administration. The primary objectives of the School are to provide a contemporary education of high quality for business administration students, to develop new knowledge through research and to 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 this research faculty teaches both undergraduate as well as graduate courses.

This 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) for both the baccalaureate and master's degree programs. The School provides relevant, comprehensive business education through programs that serve recent high school graduates as well as more mature student populations. The student body is racially and ethnically diverse, commuting, and often working and raising families. To meet the needs of these students, the School schedules classes on campus, at the University Oakland Center and online.

The School of Business Administration also recognizes its obligation to community service. As part of an urban university, the School makes a special commitment to foster basic and applied research that will benefit business enterprises. Equally important is the dedication to excellence in the instructional programs that create and support the business leadership that is critical to the continuing revitalization of southeastern Michigan.

## Accreditation

School of Business Administration programs are accredited by the AACSB International — The Association to Advance Collegiate Schools of Business.

## Undergraduate Program

The undergraduate program begins with students acquiring an educational foundation in several introductory business courses and in the basic sciences and the humanities. During the third and fourth years, students follow a program designed to provide professional education in the major. Students may select majors in accounting, finance, global supply chain management, management, information systems management, and marketing. Degrees of Bachelor of Science in Business Administration or Bachelor of Arts in Business Administration are awarded; a post-bachelor certificate in accounting is also offered. For additional undergraduate information, consult the Wayne State University Undergraduate Bulletin.

## Graduate Programs

*MASTER OF BUSINESS ADMINISTRATION and JOINT  
JURIS DOCTOR / MASTER OF BUSINESS ADMINISTRATION*

*MASTER OF SCIENCE IN ACCOUNTING*

*MASTER OF SCIENCE IN TAXATION*

*GRADUATE CERTIFICATE IN BUSINESS*

*DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION*

The program leading to the Master of Business Administration degree educates graduate students for professional careers in business administration. The program requires a minimum of thirty-six graduate credits beyond the pre-professional foundation requirements. Graduate courses are offered at both on- and off-campus locations during the late afternoon and evening, and online. It is pos-

sible for students to complete their M.B.A. online, onsite, or through a combination of online and onsite courses.

The program leading to the Master of Science in Accounting is designed to prepare individuals for careers in accounting in public accounting firms, private industries, financial institutions, and government and nonprofit organizations. The program requires a minimum of thirty credits beyond the foundation requirements. Courses are offered in the late afternoon and evening.

The program leading to the Master of Science in Taxation (M.S.T.) degree prepares students for entry into professional tax practice in both the public and private sectors. Through the interdisciplinary nature of the program, the M.S.T. candidate learns the accounting, legal, and public policy aspects of taxation. The program requires a minimum of thirty credits beyond the foundation requirements. Courses are offered in the late afternoon and evening.

The Doctor of Philosophy in Business Administration prepares persons interested in careers in research and university teaching. The core goals for Ph.D. students are the creation of new knowledge through research and excellence in teaching. This program offers concentrations in finance, management, and marketing. For more detailed information about the Ph.D. program see page 76 as well as the School's website at: <http://www.busadm.wayne.edu>

## Mission Statement

The mission of the School of Business Administration is to promote excellence in management education, research, and service with an emphasis on metropolitan organizations and issues in a global environment.

The School of Business Administration aspires to be the leading business school among North America's public research universities with an urban mission. We will foster a spirit of partnership with students, alumni, employers, and other key stakeholders to assist us in achieving our mission and our aspiration.

**Teaching:** Our goal is to provide comprehensive, high impact business education that addresses the needs of our constituencies. We will achieve this goal in several ways, including: preparing students for useful professional and societal lives by providing a high impact educational experience; achieving continuous improvement of curricula to respond to the changing needs for business education; offering a comprehensive set of degree programs that are geographically accessible to a diverse set of students; making programs accessible to students through academic preparedness initiatives; infusing our teaching with real world applicability; developing international alliances that add value to our research and teaching; and offering high quality executive development programs that are relevant to business needs.

**Research:** Our goal is to publish high quality scholarship and to conduct cutting-edge analyses of the issues confronting organizations. We will achieve our goal in several ways, including: publishing research in leading academic and professional journals; infusing our research with real world applicability; developing international alliances that add value to our research.

**Service:** Our goal is to contribute our expertise to professional organizations, the community, and the University.

# Master of Business Administration

## Admission

Admission to any graduate program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to the M.B.A. program must comply with the following:

Admission to the Master of Business Administration program is limited to holders of baccalaureate degrees from regionally accredited institutions who demonstrate high promise of success in graduate business study. Several measures of probable success may be included in the evaluation of an applicant; criteria which may be considered are:

1. Performance on the Graduate Management Admission Test (GMAT); see below.
2. Undergraduate grade point averages and the trend of grades earned during undergraduate education.
3. Other indicators of promise of success in the graduate study of business, such as relevant employment and leadership experience.

Appeals to an admission denial may be made in writing to the Director of Graduate Studies, School of Business Administration. Guidelines for formal appeals are available in the School of Business Administration's Office of Graduate Programs, room 103 Prentiss Building.

**The Graduate Management Admission Test (GMAT)** must be taken prior to admission to graduate study. This test is a three-hour aptitude test designed to measure certain mental abilities and skills important in the study of management. The GMAT includes verbal, quantitative and analytical writing sections administered by a computer. The Educational Outreach Office offers a preparation course for the GMAT (1-313-577-4449).

The GMAT is offered on a continuous basis by appointment at computer-based testing centers throughout North America and at selected international sites. Candidates can schedule a testing appointment by calling 1-800-717-GMAT (4628). A list of test centers is provided in the GMAT Bulletin and on GMAT's web site, <http://www.mba.com> or <http://www.gmac.com>.

**Application:** A completed *Application for Graduate Admission*, the application fee, and an official transcript from *each* college or university attended are required before a student can be considered for admission to graduate status. Students must apply online (<http://www.gradadmissions.wayne.edu>).

## DEGREE REQUIREMENTS

Candidates for the Master of Business Administration degree must complete thirty-six credits in final-program course work with a grade point average of not less than 3.0.

Degrees are granted upon the recommendation of the faculty of the School of Business Administration. All course work must be completed in accordance with the regulations of the Graduate School and the School of Business Administration governing graduate scholarship and degrees; see the sections beginning on pages 32 and 77, respectively.

## Joint J.D./M.B.A. Program

Joint degree programs are those in which credit for some courses may be applied to both degrees. The Joint J.D./M.B.A. Program leads to the receipt of both the Juris Doctor (J.D.) degree from the Law School (see page 252) and the Master of Business Administration (M.B.A.) degree. Applicants to this program must apply to both the Law School and the School of Business Administration. Students must take the Graduate Management Admission Test (GMAT) as part of the M.B.A. application process (see above). Admission to the Joint J.D./M.B.A. Program requires separate approval by both the Law School and the School of Business Administration.

The first year of study is spent in the Law School; after completion of the first year, students may elect one Business School course per semester, but not more than four graduate courses in total for which credit may be applicable toward the J.D. degree. Students are eligible to apply a maximum of two law school courses (six credits) as M.B.A. elective credit, provided the following conditions are met:

- 1) The law school courses to be applied to the M.B.A. must be taken at the Wayne State University Law School, as part of the J.D. program;
- 2) A grade of 'B' (3.0) or higher must have been awarded for the courses; Passed/Not Passed credit is not acceptable;
- 3) The courses must be relevant to the student's Plan of Work as approved by the Graduate Committee;
- 4) The courses may not be more than five years old at the time of graduation;
- 5) The student must petition in writing to the Graduate Committee for the dual application of credit;
- 6) The only Law courses which will be considered for dual applicability are:

LEX 6200 -- Contracts A: Cr. 3  
LEX 6201 -- Contracts B: Cr. 3  
LEX 7026 -- Antitrust: Cr. 2-4  
LEX 7141 -- Corporate Finance: Cr. 3  
LEX 7156 -- Corporations: Cr. 4  
LEX 7221 -- Employment Law: Cr. 3  
LEX 7404 -- International Business Transactions: Cr. 3  
LEX 7831 -- Trademarks and Unfair Competition: Cr. 3

## Course Distribution Requirements (M.B.A.)

The master's degree program provides a fundamental background in business administration as well as opportunities for advanced specialization in particular areas. The program beyond the common body of knowledge is broad in nature and is directed at general competence for overall business management. There are three phases of course work required: foundation, core, and electives and/or concentrations. Depending on the student's background, there may be no foundation courses or as many as eight foundation courses required. All students must complete six core courses. Students must also choose six elective courses which can be used either as part of a general curriculum or as applied towards the completion of one or more of the concentrations as listed below.

### — Foundation Requirements

The following foundation courses are open only to students who have been formally admitted to a graduate program at Wayne State University — undergraduate, post-baccalaureate, and non-matriculated students are not eligible. (Analogous courses offered at the undergraduate level may be taken to satisfy Foundation Requirements prior to graduate admission. However, once a student has been formally admitted to the M.B.A. program, NO graduate credit shall be allowed for subsequent registrations in undergraduate courses analogous to the Graduate Foundation Requirements without approval of

the Graduate Committee or its designee. Information regarding such courses is available in the Office of Graduate Programs, 103 Prentiss Building.) **All foundation requirements must be completed before a student begins core and elective courses.**

- B A 6000 -- Intro. to Accounting & Financial Reporting: Cr. 2
- B A 6005 -- Basics of Financial Management: Cr. 2
- B A 6010 -- Basics of Business Economics: Cr. 2
- B A 6015 -- Marketing Foundations: Cr. 2
- B A 6020 -- Contemporary Principles of Management: Cr. 2
- B A 6025 -- Basics of Production/Operations Management: Cr. 2
- B A 6090 -- Quantitative Analysis: Theory and Application: Cr. 2
- B A 6100 -- Analytical Writing for Business<sup>1</sup>: Cr. 2

In addition to these courses, one college-level mathematics course and one course in business information systems are required.

While all of the above foundation courses are required, students who have had equivalent course work in their undergraduate programs (except for B A 6005) may be granted waivers of certain foundation courses at the time of their admission to the graduate program.

B A 6005 (Basics of Financial Management) is a prerequisite for B A 7020. Students who have taken an undergraduate course that is compatible with B A 6005 may opt out of B A 6005 if their quantitative GMAT score is higher than the 50th percentile and the prior course was taken within the last three years from an AACSB accredited college or university. Students who do not meet these conditions may take and pass a waiver exam administered by the Department of Business; however, they are strongly encouraged to take B A 6005.

In general, a baccalaureate degree in Business Administration from a regionally accredited institution fulfills most foundation requirements. However, each applicant's background will be individually examined to determine if any foundation course work is needed. If courses proposed to satisfy the foundation requirements of the M.B.A. program are over six years old, the Graduate Committee may require the applicant to demonstrate proficiency in the subject matter either by interview with a faculty member, by taking an equivalent course, or by taking an equivalent course by examination.

A cumulative grade point average of 3.00 ('B') is required for foundation requirements. No individual grade below 2.0 ('C') is acceptable.

## — Core Requirements

The following six core courses are required of all students:

- B A 7000 -- Managerial Accounting: Cr. 3
- B A 7020 -- Corporate Financial Management: Cr. 3
- B A 7040 -- Managing Organizational Behavior: Cr. 3
- B A 7050 -- Marketing Strategy: Cr. 3
- B A 7070 -- Social Perspectives on the Business Enterprise: Cr. 3
- B A 7080 -- Strategic Management: Cr. 3

B A 7080, Strategic Management, is to be taken in the final twelve credits of the graduate program and only after the completion of the other five core courses. For those students with an undergraduate major in accounting, management or marketing, a more advanced course in a subject area (approved as part of the student's Plan of Work) must replace the pertinent core course noted above.

## — Concentration Requirements

The purpose of the concentration is to provide depth in a specialization that will contribute to the student's attainment of his or her professional objectives. The School of Business Administration currently offers twelve areas of concentration. Students must take three elective courses from a pre-specified list of courses to obtain a concentration. The following are the areas of concentrations and the list of

courses that must be completed to fulfill the concentration requirement:

### *Accounting Systems*

Complete any three of the following courses:

- ACC 7040 -- Intermediate Financial Accounting I: Cr. 3
- ACC 7130 -- Intermediate. Managerial Accounting: Cr. 3
- ACC 7145 -- Accounting Systems: Design and Controls: Cr. 3
- ACC 7148 -- ERP Systems: Concepts and Practice: Cr. 3

### *Auditing*

Complete any three of the following courses:

- ACC 7040 -- Intermediate Financial Accounting I: Cr. 3
- ACC 7050 -- Intermediate Financial Accounting II: Cr. 3
- ACC 7180 -- Auditing: Cr. 3
- ACC 7190 -- Advanced Auditing: Cr. 3

### *Corporate Governance*

Complete the following:

- ACC 7310 -- Bus. & Professional Ethics for Managers and Accountants: Cr. 3
- BLW 7220 -- Law of Corporate Management and Finance: Cr. 3
- MGT 7620 -- Complex Organizations: Cr. 3

### *Finance:*

Complete:

- FIN 7230 -- Investment Policies: Cr. 3

- and at least two of the following courses:

- FIN 7229 -- Corporate Valuation: Cr. 3
- FIN 7220 -- Advance Managerial Finance: Cr. 3
- FIN 7340 -- Futures & Options: Cr. 3
- FIN 7090 -- Money & Capital Markets: Cr. 3
- FIN 7870 -- International Finance: Cr. 3

### *Financial Accounting*

Complete:

- ACC 7040 -- Intermediate Financial Accounting I: Cr. 3
- ACC 7050 -- Intermediate Financial Accounting II: Cr. 3

- and at least one of the following courses:

- ACC 7115 -- Financial Statement Analysis: Cr. 3
- ACC 7122 -- Advanced Accounting I: Cr. 3
- ACC 7125 -- Advanced Accounting II: Cr. 3
- ACC 7145 -- Accounting Systems: Design and Controls: Cr. 3
- ACC 7155 -- Forensic Accounting: Cr. 3
- ACC 7180 -- Auditing: Cr. 3
- ACC 7188 -- Governmental and Not-for-Profit Accounting: Cr. 3
- ACC 7190 -- Advanced Auditing: Cr. 3
- ACC 7192 -- Accounting Theory: Cr. 3

### *Global Supply Chain*

Complete:

- GSC 7620 -- Global Supply Chain Management: Cr. 3
- GSC 7650 -- Strategic Procurement: Cr. 3

- and one of following courses:

- ACC 7148 -- ERP Systems & Business Integration: Cr. 3
- B A 7260 -- Theory of Constraints: Cr. 3
- GSC 7010 -- Desktop Decision Tools: Cr. 3
- GSC 7991 -- Principles of Quality Management: Cr. 3
- ISM 7510 -- Database Management: Cr. 3
- MKT 7450 -- Business Research and Methodology: Cr. 3
- MKT 7460 -- International Business: Cr. 3
- MKT 7500 -- International Marketing Strategy: Cr. 3
- MKT 7700 -- Management of Retail Enterprises: Cr. 3

1. B A 6100 is only waived for students who score at least 3.5 on the GMAT Writing Assessment.

## *Information Systems Management*

Complete at least three of the following courses:

- B A 7530 -- Societal and Ethical Issues in the Information Age: Cr. 3
- ISM 7500 -- Business Information Systems: Cr. 3
- ISM 7510 -- Database Management: Cr. 3
- ISM 7540 -- Telecommunications and Networks: Cr. 3
- ISM 7560 -- Survey of E--Commerce: Cr. 3
- ISM 7570 -- Data Mining: Cr. 3
- ISM 5575 -- Corporate Computer Networks and IT Security: Cr. 3

## *Internal Audit*

Complete:

- ACC 7165 -- Internal Audit I: Cr. 3
- ACC 7168 -- Internal Audit II, Cr. 3

- and at least two of the following courses:

- ACC 7100 -- Financial Accounting for Managers: Cr. 3
- ACC 7040 -- Intermediate Financial Accounting I: Cr. 3
- ACC 7050 -- Intermediate Financial Accounting II: Cr. 3
- ACC 7145 -- Accounting Systems: Design and Controls: Cr. 3
- ACC 7155 -- Forensic Accounting: Cr. 3
- ACC 7180 -- Auditing: Cr. 3
- ACC 7190 -- Advanced Auditing: Cr. 3
- ACC 7310 -- Bus. and Professional Ethics for Managers and Accountants: Cr. 3
- ACC 7990 -- Internship in Accounting or Tax Practice: Cr. 3

## *International Business*

Complete:

- MKT 7460 -- International Business: Cr. 3
- MKT 7500 -- International Marketing Strategy: Cr. 3

and one of the following courses:

- B A 7560 -- Global Perspectives in Management: Cr. 3
- GSC 7620 -- Global Supply Chain Management: Cr. 3
- FIN 7870 -- International Finance: Cr. 3
- MKT 7600 -- The North American Economy, Cr. 3

## *Management*

Complete at least three of the following courses:

- MGT 7620 -- Complex Organizations: Cr. 3
- MGT 7630 -- Organizational Change and Development: Cr. 3
- MGT 7640 -- Management of Human Resources: Cr. 3
- MGT 7660 -- Entrepreneurial Management: Cr. 3
- MGT 7816 -- Leading in Organizations: Cr. 3

## *Marketing*

Complete:

- MKT 7450 -- Business Research and Methodology: Cr. 3
- MKT 7470 -- Consumer and Industrial Buying Power: Cr. 3

- and one of the following courses:

- GSC 7650 -- Strategic Procurement: Cr. 3
- MKT 7430 -- Advertising Management: Cr. 3
- MKT 7460 -- International Business: Cr. 3
- MKT 7500 -- International Marketing Strategy: Cr. 3
- MKT 7700 -- Management of Retail Enterprises: Cr. 3

## *Taxation*

Complete any three of the following courses:

- ACC 7120 -- Intro. to Taxation: Individuals: Cr. 3
- ACC 7300 -- Accounting & Tax Research & Professional Communications: Cr. 3
- ACC 7320 -- Intro. to Taxation: Business Entities: Cr. 3
- ACC 7325 -- Advanced Tax Research and IRS Procedures: Cr. 3
- ACC 7330 -- Taxation of Corporations and Shareholders I: Cr. 3
- ACC 7335 -- Taxation of Corporations and Shareholders II: Cr. 3
- ACC 7340 -- Taxation of Pass-through Entities: Cr. 3
- ACC 7400 -- Tax of International Bus. & Multinational Trans: Cr. 3

- ACC 7410 -- Tax Accounting Methods and Deferred Income Taxes: Cr. 3
- ACC 7420 -- Taxation by State and Local Jurisdictions: Cr. 3
- ACC 7440 -- Financial and Estate Planning: Cr. 3
- ACC 7450 -- Taxes and Business Strategy: Cr. 3

## — Elective Requirements

All elective courses must be at the 7000 level or higher and must be offered by the School of Business Administration. The written approval of the Dean or his/her designee is required to take any course outside the School of Business Administration. (Only students holding a bachelor's degree in business administration are eligible to take elective courses outside the School of Business Administration.) Students may select any combination of elective courses from the following set of courses:

### ACCOUNTING

- ACC 7040 -- Intermediate Financial Accounting I: Cr. 3
- ACC 7050 -- Intermediate Financial Accounting II: Cr. 3
- ACC 7100 -- Financial Accounting for Managers: Cr. 3
- ACC 7115 -- Financial Statement Analysis: Cr. 3
- ACC 7120 -- Tax Problems in Business Affairs: Cr. 3
- ACC 7122 -- Advanced Accounting: Cr. 3
- ACC 7130 -- Intermediate. Managerial Accounting: Cr. 3
- ACC 7145 -- Accounting Systems: Design and Controls: Cr. 3
- ACC 7148 -- ERP Systems & Business Integration: Cr.3
- ACC 7165 -- Internal Audit I: Cr. 3
- ACC 7168 -- Internal Audit II: Cr. 3
- ACC 7170 -- International Accounting: Cr. 3
- ACC 7180 -- Auditing: Cr. 3
- ACC 7188 -- Governmental & Not-For-Profit Accounting: Cr. 3
- ACC 7190 -- Advanced Auditing: Cr. 3
- ACC 7192 -- Accounting Theory: Cr. 3
- ACC 7300 -- Accounting & Tax Research & Prof. Communications: Cr. 3
- ACC 7310 -- Professional Ethics for Managers & Accountants: Cr. 3
- ACC 7320 -- Advanced Tax Problems: Cr. 3
- ACC 7330 -- Taxation of Corporations and Shareholders I: Cr. 3
- ACC 7335 -- Taxation of Corporations and Shareholders II: Cr.3
- ACC 7340 -- Taxation of Pass-through Entities: Cr. 3
- ACC 7400 -- Taxation of Intern'l Business & Multinational Transactions: Cr. 3
- ACC 7410 -- Tax Accounting Mthds. & Deferred Income Taxes: Cr. 3
- ACC 7420 -- Taxation by State and Local Jurisdictions: Cr. 3
- ACC 7440 -- Financial and Estate Planning: Cr. 3
- ACC 7450 -- Taxes and Business Strategy: Cr. 3
- ACC 7998 -- Seminar in Tax and Accounting Policy: Cr. 3

### BUSINESS ADMINISTRATION

- B A 7530 -- Societal & Ethical Issues: Information Age: Cr. 3
- B A 7560 -- Global Perspectives in Management: Cr. 3
- B A 7260 -- Theory of Constraints: Cr. 3
- B A 7560 -- Global Perspectives in Management: Cr. 3

### FINANCE

- FIN 7870 -- International Finance: Cr. 3
- FIN 7090 -- Money and Capital Markets: Cr. 3
- FIN 7220 -- Advanced Managerial Finance: Cr. 3
- FIN 7229 -- Corporate Valuation: Cr. 3
- FIN 7230 -- Investment Policies: Cr. 3
- FIN 7290 -- Topics in Finance: Cr. 3
- FIN 7340 -- Futures and Options: Cr. 3
- FIN 7870 -- International Finance: Cr. 3

### GLOBAL SUPPLY CHAIN MANAGEMENT

- GSC 7620 -- Global Supply Chain Management: Cr. 3
- GSC 7650 -- Strategic Procurement: Cr. 3

### INFORMATION SYSTEMS MANAGEMENT

- ISM 7500 -- Business Information Systems: Cr. 3
- ISM 7510 -- Data Base Management: Cr. 3
- ISM 7520 -- Information Systems Design: Cr. 3
- ISM 7540 -- Telecommunication and Networks: Cr. 3

ISM 7550 -- Management of Information Technology: Cr. 3  
ISM 7560 -- Survey of E-Commerce: Cr. 3  
ISM 7570 -- Data Mining: Cr. 3  
ISM 7575 -- Corporate Computer Networks and IT Security: Cr.3  
ISM 8000 -- Seminar in ISM: Cr. 3

#### MANAGEMENT

MGT 7611 -- Managing 21st Century Workers, Careers, and Lifestyles: Cr. 3  
MGT 7620 -- Complex Organizations: Cr. 3  
MGT 7630 -- Organizational Change and Development: Cr. 3  
MGT 7640 -- Management of Human Resources: Cr. 3  
MGT 7650 -- Strategic Human Resource Management: Cr. 3  
MGT 7660 -- Entrepreneurial Management: Cr. 3  
MGT 7700 -- Leadership and Management of Innovation and Technology: Cr. 3  
MGT 7710 -- Leadership of Technical Organizations: Cr. 3  
MGT 7750 -- Labor Relations and Collective Bargaining: Cr. 3  
MGT 7770 -- Union Contract Administration: Cr. 3  
MGT 7780 -- Concepts and Processes of Dispute Resolution I: Cr. 3  
MGT 7790 -- Compensation Administration: Cr. 3  
MGT 7810 -- International Industrial Relations and Human Resources: Cr. 3  
MGT 7815 -- Strategic Leadership: Cr. 3  
MGT 7816 -- Leading in Organizations: Cr. 3  
MGT 8000 -- Seminar in Management: Cr. 3

#### MARKETING

MKT 7330 -- Managerial Communication: Cr. 3  
MKT 7430 -- Advertising Management: Cr. 3  
MKT 7450 -- Business Research and Methodology: Cr. 3  
MKT 7460 -- International Business: Cr. 3  
MKT 7470 -- Consumer and Industrial Buying Behavior: Cr. 3  
MKT 7500 -- International Marketing Strategy: Cr. 3  
MKT 7600 -- The North American Economy: Cr. 3  
MKT 7700 -- Management of Retail Enterprises: Cr. 3  
MKT 7870 -- Seminar in Marketing: Cr. 3  
MKT 7890 -- Internship: Marketing: Cr. 3  
MKT 7995 -- Directed Study: Marketing: Cr. 1-3

### M.B.A. — C.P.A. Examination Requirements

M.B.A. students who hold a baccalaureate degree in a field other than accounting and who wish to qualify to sit for the C.P.A. examination in the State of Michigan should contact their advisor in the Office of Graduate Programs (313-577-4511) as early as possible. While no formal M.B.A. curriculum is offered to meet the educational requirements of the Michigan State Board of Accountancy, an individualized Plan of Work can be developed. Generally, such a Plan of Work includes more than the minimum number of courses required for the M.B.A.

### Graduate Certificate in Business

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must have earned a minimum g.p.a. of 3.0 in their undergraduate/graduate program.

**Curriculum Requirements:** 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. The Certificate program requires successful completion of thirteen credits consisting of six courses: four functional basic required courses (eight credits); a foundation elective course (two credits); and a functional elective course (three credits). Courses are to be chosen from the following.

#### Functional Basics (four required):

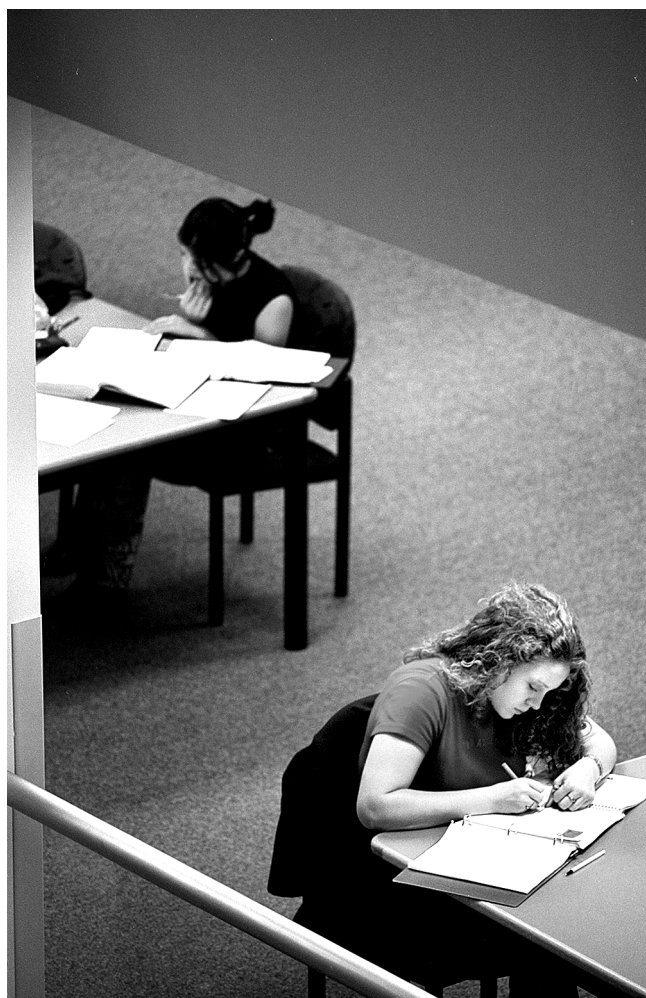
B A 6000 -- Introduction to Accounting & Financial Reporting: Cr. 2  
B A 6005 -- Basics of Financial Management: Cr. 2  
B A 6015 -- Marketing Foundations: Cr. 2  
B A 6020 -- Contemporary Principles of Management: Cr. 2

#### Foundation Electives (one required):

B A 6010 -- Basics of Business Economics: Cr. 2  
B A 6025 -- Basics of Production/Operations Management: Cr. 2  
B A 6090 -- Quantitative Analysis: Theory and Application: Cr. 2

#### Functional Electives (one required):

B A 7000 -- Managerial Accounting: Cr. 3  
B A 7020 -- Corporate Financial Management: Cr. 3  
B A 7040 -- Managing Organizational Behavior: Cr. 3  
B A 7050 -- Marketing Strategy: Cr. 3  
B A 7070 -- Social Perspectives on the Business Enterprise: Cr. 3  
ISM 7500 -- Business Information Systems: Cr. 3





# Master of Science in Accounting

## Admission

Admission to any graduate program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to the M.S.A. program must comply with the following:

Admission to the Master of Science in Accounting (M.S.A.) program is limited to students who demonstrate high promise of success and hold a baccalaureate degree in business administration, a discipline area of business administration, or accounting from regionally accredited institutions. Several measures of probable success that may be considered in the evaluation of an applicant include but are not limited to:

1. Performance on the Graduate Management Admission Test (GMAT); see page 69.
2. Undergraduate grade point averages and the trend of grades earned during undergraduate education.
3. Other relevant factors such as employment and leadership experience.

The M.S. in Accounting Committee is authorized to review the credentials of each applicant. This Committee is composed of the Chairperson of the Department of Accounting and two other members of the graduate faculty of the University. It is chaired by the Assistant Dean for Student Services. Final approval of the applicant's admission to graduate study in accounting is authorized by the Dean of the School of Business Administration or the Dean's designee, upon recommendation of the M.S.A. Committee. Appeals to an admission denial must be made in writing to the Director of Graduate Studies, School of Business Administration. A copy of the guidelines for formal appeals is available in the School's Office of Graduate Programs.

Before an applicant can be considered for admission, the following material must be timely submitted:

1. an online W.S.U. *Application for Graduate Admission*: <http://www.gradadmissions.wayne.edu>
2. an official transcript from each college or university previously attended by the applicant;
3. an official notification of the applicant's score on the GMAT and, if required, the TOEFL. (For information regarding the GMAT, see page 69.)
4. the application fee.

## DEGREE REQUIREMENTS

The M.S.A. degree program requires completion of thirty credits in final-program course work with a grade point average of not less than 3.0. Degrees are granted upon recommendation of the faculty of the School of Business Administration. Consideration is given to both scholastic achievement and the extent to which the candidate has met the standards and requirements of the School. All course work must be completed in accordance with the regulations of the Graduate School and the School of Business Administration governing graduate scholarship and degrees; see the sections beginning on pages 32 and 77, respectively. University policies on transfer of credits from other institutions will apply.

### Course Distribution Requirements (M.S.A.)

The M.S.A. program consists of four course categories, as follows:

**Foundation Courses** are required pre-professional courses but ones for which credit is not applicable to the M.S.A. degree. Applicants who have already earned a degree in business administration or accounting may usually be able to waive most, if not all, of the foundation course requirements.

**Core Courses** are six courses providing in-depth coverage of the body of knowledge associated with studies in accounting. Applicants who have already earned a degree in accounting may be able to waive many of the core courses and substitute accounting elections in their place.

**Elective Courses** are three additional courses surrounding coverage of the body of knowledge associated with studies in accounting.

**Capstone Course:** When nearing the conclusion of the M.S. in Accounting program, the degree candidate will take ACC 7998, Seminar in Tax and Accounting Policy.

### —Foundation Requirements

The M.S.A. is an advanced degree. Before progressing to the core courses of the program, the student should possess a solid foundation in accounting as comprised by the following set of two courses:

ACC 7040 -- Intermediate Financial Accounting I: Cr. 3

ACC 7050 -- Intermediate Financial Accounting II: Cr. 3

However, if the applicant's business administration or accounting degree is from a college or university located outside of the United States, some or all of the foundation requirements may not be waived because U.S. generally accepted accounting principles (US GAAP) may not have been studied.

The graduate-level foundation courses (ACC 7040 and 7050) cited above are open only to students who have been formally admitted to a graduate program at Wayne State University. Analogous courses offered at the undergraduate level (as determined by the admission evaluation process) may be taken to satisfy foundation requirements prior to graduate admission. However, once a student has been formally admitted to the M.S.A. program, NO graduate credit will be allowed for subsequent registration in undergraduate courses.

A cumulative grade point average of 3.0 ('B') is required in foundation requirements courses. No individual grade below 'C' (2.0) is acceptable. Students may begin taking Core courses during the semester in which they elect Foundation Requirements, subject to the prerequisite and corequisite requirements of the Core courses.

### — Core Requirements (Eighteen Credits)

The following six courses are required of all students and are prerequisite or corequisite to subsequent/concurrent elective courses. ACC 7300 must be completed within the first nine credits of the program.

## CORE REQUIREMENTS:

- ACC 7120 -- Intro. to Taxation: Individuals: Cr. 3
- ACC 7130 -- Intermediate Managerial Accounting: Cr. 3
- ACC 7145 -- Accounting Systems: Design and Controls: Cr. 3
- ACC 7180 -- Auditing: Cr. 3
- ACC 7300 -- Accounting and Tax Research & Professional Communications: Cr. 3
- ACC 7310 -- Bus. and Prof. Ethics for Managers & Accts.: Cr. 3

For students who have completed undergraduate or graduate courses equivalent to Core courses within the preceding three years with a grade point average of 3.0 or above, one or more advanced courses in accounting may be substituted for Core courses, at the discretion of the M.S.A. committee

## — Elective Requirements (Nine Credits)

A minimum of three electives chosen from accounting or business courses offered at the 7000 level are required of all M.S.A. students. A student may begin to take electives once he/she has completed the foundation requirements.

### Accounting Electives

- ACC 7115 -- Financial Statement Analysis: Cr. 3
- ACC 7122 -- Advanced Accounting I: Cr. 3
- ACC 7125 -- Advanced Accounting II: Cr. 3
- ACC 7148 -- ERP Systems & Business Integration: Cr. 3
- ACC 7155 -- Forensic Accounting: Cr. 3
- ACC 7165 -- Internal Audit I: Cr. 3
- ACC 7168 -- Internal Audit II: Cr. 3
- ACC 7170 -- International Accounting: Cr. 3
- ACC 7188 -- Governmental and Not-for-Profit Accounting: Cr. 3
- ACC 7190 -- Advanced Auditing: Cr. 3
- ACC 7192 -- Accounting Theory: Cr. 3
- ACC 7320 -- Intro. to Taxation: Business Entities: Cr. 3
- ACC 7330 -- Taxation of Corporations and Shareholders I: Cr. 3
- ACC 7325 -- Advanced Tax Research and IRS Procedures: Cr. 3
- ACC 7335 -- Taxation of Corporations and Shareholders II: Cr. 3
- ACC 7340 -- Taxation of Pass-through Entities.: Cr. 3
- ACC 7400 -- Tax of International Bus. & Multinational Trans.: Cr. 3
- ACC 7410 -- Tax Accounting Methods and Deferred Income Taxes: Cr. 3
- ACC 7420 -- Taxation by State and Local Jurisdictions: Cr. 3
- ACC 7430 -- Taxation of Exempt Organizations: Cr. 3
- ACC 7440 -- Financial and Estate Planning: Cr. 3
- ACC 7450 -- Taxes and Business Strategy: Cr. 3
- ACC 7990 -- Internship in Accounting or Tax Practice: Cr. 3
- ACC 7992 -- Topics in Accounting: Cr. 3
- ACC 7995 -- Directed Study in Accounting: Cr. 1-5
- B A 7260 -- Theory of Constraints: Cr. 3
- BLW 7210 -- Business Law for Entrepreneurs: Cr. 3
- BLW 7220 -- Law of Corporate Management and Finance: Cr. 3

*Business Electives (zero to nine credits):* Students may choose electives from graduate business courses (offered at the 7000 level) based on their professional interests, with approval from the M.S. in Accounting Committee.

## — Capstone Requirement

ACC 7998, Seminar in Tax and Accounting Policy, is the capstone course for all M.S. in Accounting degree candidates; it must be elected as part of the final nine credits in the student's program. ACC 7998 provides the opportunity to combine concepts developed by students in their professional and educational experience with economic, social, industrial, administrative, and legislative policy considerations.

# Master of Science in Taxation

## Admission

Admission to any graduate program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to the M.S.T. program must comply with the following:

Admission to the Master of Science in Taxation (M.S.T.) program is limited to students who demonstrate high promise of success and hold a baccalaureate degree in business administration, a discipline area of business administration, or accounting from regionally accredited institutions. Several measures of probable success that may be considered in the evaluation of an applicant include but are not limited to:

1. Performance on the Graduate Management Admission Test (GMAT); see page 69.
2. Undergraduate grade point averages and the trend of grades earned during undergraduate education.
3. Other relevant factors such as employment and leadership experience.

The M.S.T. Committee is authorized to review the credentials of each applicant. This Committee is composed of the Chairperson of the Department of Accounting, and two other members of the graduate faculty of the University. Final approval of the applicant's admission to graduate study in taxation is authorized by the Dean of the School of Business Administration or the Dean's designee, upon recommendation of the M.S.T. Committee. Appeals to an admission denial must be made in writing to the Director of the M.S.T. program, School of Business Administration. A copy of the Guidelines for formal appeals is available in the School's Office of Graduate Programs.

Before an applicant can be considered for admission, the following material must be timely submitted:

1. An online W.S.U. *Application for Graduate Admission*: <http://www.gradadmissions.wayne.edu>
2. an official transcript from each college or university previously attended by the applicant;
3. an official notification of the applicant's score on the GMAT and, if required, the TOEFL. (For information regarding the GMAT, see page 69.)
4. the application fee.

## DEGREE REQUIREMENTS

The M.S.T. degree program requires completion of thirty credits in final-program course work with a grade point average of not less than 3.0. Degrees are granted upon recommendation of the faculty of the School of Business Administration. Consideration is given to both scholastic achievement and the extent to which the candidate has met the standards and requirements of the School. All course work must be completed in accordance with the regulations of the Graduate School and the School of Business Administration governing graduate scholarship and degrees; see the sections beginning on pages 32 and 77, respectively. University policies on transfer of credits from other institutions will apply.

## Course Distribution Requirements (M.S.T.)

The M.S.T. program consists of four course categories, as follows:

**Foundation Courses** are required pre-professional courses but ones for which credit is not applicable to the M.S.T. degree. Applicants who have already earned a degree in business administration or accounting may usually be able to waive most, if not all, of the foundation courses.

**Core Courses** are seven courses providing in-depth coverage of the body of knowledge associated with studies in taxation and tax policy.

Electives comprise two additional courses providing additional coverage of the body of knowledge associated with studies in taxation and tax policy.

**Capstone Course:** When nearing the conclusion of the M.S. in Taxation program, the degree candidate will take ACC 7998, Seminar in Tax and Accounting Policy.

### — Foundation Requirements

The M.S. in Taxation is an advanced degree. Before progressing to the core courses of the program, the student should possess a solid foundation in accounting as comprised by the following set of three courses:

ACC 7040 -- Intermediate Financial Accounting I: Cr. 3

ACC 7050 -- Intermediate Financial Accounting II: Cr. 3

ACC 7120 -- Intro. to Taxation: Individuals: Cr. 3

However, if the applicant's business administration or accounting degree is from a college or university located outside of the United States, some or all of the foundation requirements may not be able to be waived as U.S. generally accepted accounting principles (US GAAP) may not have been studied.

The graduate-level foundation courses (ACC 7040, 7050 and 7120) cited above are open only to students who have been formally admitted to a graduate program at Wayne State University. Analogous courses offered at the undergraduate level (as determined by the admission evaluation process) may be taken to satisfy foundation requirements prior to graduate admission. However, once a student has been formally admitted to the M.S.T. program, NO graduate credit will be allowed for subsequent registration in undergraduate courses.

A cumulative grade point average of 3.0 ('B') is required in foundation requirements courses. No individual grade below 'C' (2.0) is acceptable. Students may begin taking Core courses during the semester in which they elect Foundation Requirements, subject to the prerequisite and corequisite requirements of the Core courses

### — Core Requirements (Twenty-one Credits)

The following seven courses are required of all students and are prerequisite or corequisite to subsequent/concurrent elective courses. ACC 7300 must be completed within the first nine credits of the program.

#### CORE REQUIREMENTS

ACC 7300 -- Accounting & Tax Research & Professional Communications: Cr. 3

ACC 7310 -- Business & Prof. Ethics for Managers & Accountants.: Cr. 3

ACC 7320 -- Intro. to Taxation: Business Entities: Cr. 3

ACC 7325 -- Advanced Tax Research and IRS Procedures: Cr. 3

ACC 7330 -- Taxation of Corporations and Shareholders I: Cr. 3

ACC 7335 -- Taxation of Corporations and Shareholders II: Cr. 3

ACC 7340 -- Tax of Pass-through Entities: Cr. 3

For students who have completed undergraduate, graduate or law courses equivalent to Core courses, within the preceding three years with a grade point average of 3.0 or above, one or more advanced courses in taxation may be substituted for Core courses, at the discretion of the M.S.T. Committee.

### — Elective Requirements (Six Credits)

At least two electives are required of all M.S.T. students. A student may begin to take electives if he/she has completed the foundation requirements. Advanced graduate courses in taxation offered by the Accounting Department may be elected without approval of the student's advisor. Electives outside of the field of taxation, as offered by the Accounting Department, require approval of the advisor; electives from outside the Accounting Department or the School of Business Administration must also be approved by the M.S. in Taxation Committee.

A student may elect Law School courses with the approval of his/her advisor and the Director of Graduate Studies of the Law School. Students should be aware that registration for Law School courses takes place earlier than for the School of Business Administration and the rest of the University, and that the Law School calendar and the regular University calendar also differ. Students should consult the Law School regarding courses, schedules, and calendar; see page 250.

### — Capstone Requirement

ACC 7998, Seminar in Tax and Accounting Policy, is the capstone course for all M.S.T. degree candidates; it must be elected as part of the final nine credits in the student's program, and only after completion of at least four Core courses. ACC 7998 provides the opportunity to combine concepts developed by students in their professional and educational experience with economic, social, industrial, administrative, and legislative policy considerations.



# Doctor of Philosophy in Business Administration

The Doctor of Philosophy in Business prepares persons interested in careers in research and university teaching. The core goals for the program are the creation of new knowledge through research and excellence in teaching. The Ph.D. program offers specialized tracks in finance, management, and marketing. Detailed information about the School of Business Administration Ph.D. may be found at <http://www.busadm.wayne.edu>.

## Admission

Admission to any graduate program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to the Ph.D. program must comply with the following:

- 1) hold a bachelors degree with a grade point average of at least 3.0, or 3.5 upper division (junior or senior), or a graduate degree g.p.a. of 3.5.;
- 2) score at least a 600 on the Graduate Management Admissions Test. (Attainment of satisfactory GMAT score and GPA does not guarantee admission.);
- 3) provide at least three letters of recommendation from officials or faculty at the institution(s) most recently attended, or by a recent employer of the applicant;
- 4) submit a brief essay (not to exceed four pages) by the applicant on his or her career objectives.
- 5) Applicants from other countries must demonstrate English proficiency by obtaining at least a 550/213/79 on the Test of English as a Foreign Language.

## Degree Requirements

Ph.D. students in Business Administration must successfully complete at least ninety credits of graduate study, consisting of at least sixty credits of course work and thirty credits in dissertation research. The program must include at least thirty credits (excluding dissertation direction) in courses numbered 7000 or above, or as approved by the students advisor and the Ph.D. program director.

All Business School Ph.D. students must complete:

- B A 8777 -- Professional Development Seminar: Ph.D.: Cr. 1-3
- B A 8900 -- Development of Effective Research Programs in Business: Cr. 3

All Finance Track students must complete:

- B A 8120 -- Theory of Finance: Cr. 3
- B A 8121 -- Seminar in Corporate Finance: Cr. 3
- B A 8122 -- Empirical Methods in Finance: Cr. 3
- B A 8123 -- Seminar in Corporate Governance: Cr. 3
- B A 8124 -- Seminar in Asset Pricing: Cr. 3

All Management Track students must complete:

- B A 8220 -- Seminar in Organizational Behavior: Cr. 3
- B A 8221 -- Seminar in Strategic Management: Cr. 3
- B A 8420 -- Seminar in Organizational Theory: Cr. 3

All Marketing Track students must complete:

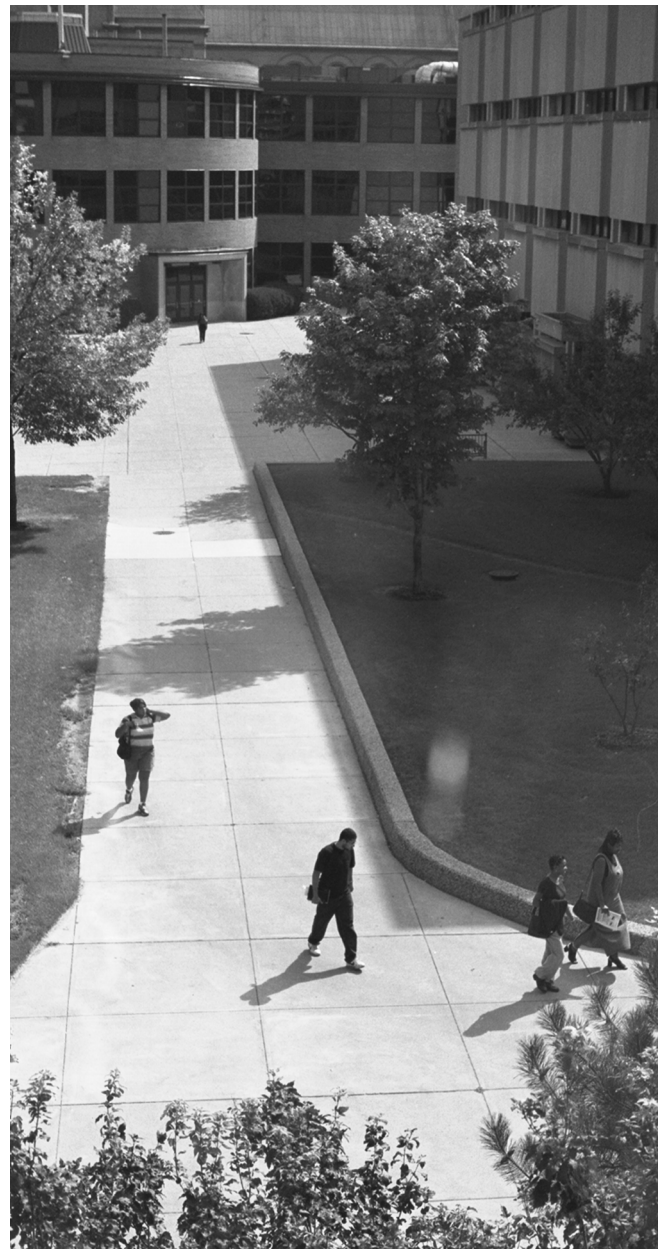
- B A 8050 -- Seminar in Marketing Theory: Cr. 3
- B A 8054 -- Seminar in Marketing Strategy: Cr. 3
- B A 8056 -- Special Topics Seminar in Marketing: Cr. 3
- B A 8058 -- Advanced Topics in Consumer Behavior: Cr. 3

Upon completion of fifty credits of the course work, students must take written and oral qualifying examinations. The qualifying examinations require of students critical analysis of the state of research and knowledge in their substantive areas. In addition, they must demonstrate the reflective presentation of innovations in perspec-

tives, theory, knowledge, and research design, methods and strategies that will advance practice and create new knowledge in their chosen areas.

Students advance to Ph.D. Candidacy after successful completion of both written and oral qualifying exams. Ph.D. Candidacy begins the dissertation preparation phase of the degree. Four consecutive academic-year semesters of registration as a degree candidate are required during the preparation of the dissertation. The thirty-credit dissertation registration requirement is fulfilled by registering for courses B A 9991, 9992, 9993, 9994 (Doctoral Research and Direction I, II, III, IV, respectively), in consecutive academic year semesters.

Students should consult Graduate School regulations governing doctoral study, see page 37. All course work must be completed in accordance with the procedures of the Graduate School governing academic scholarship and degrees.



# Academic Regulations

Graduate students are advised that, in addition to the policies, procedures, and rules specified by the School of Business Administration, other regulations and requirements of Wayne State University's Graduate School may apply. See pages 28-36 of this bulletin.

## Academic Standing

Students who have been admitted to the Graduate Program on a 'qualified' or conditional basis are expected to remove that status by the completion of the first twelve credits in course work with a minimum 3.0 grade point average. Failure to do so will result in dismissal from the program.

Students admitted to regular status or those who have attained regular status following a 'qualified' admission, will be given an academic warning at any time their graduate grade point average falls below 3.0. After an academic warning, students will be permitted nine credits to restore their cumulative grade point average to a 3.0 level. Failure to do so within this credit limit will result in dismissal from the program. The second (or subsequent) time(s) a student is placed on probation, he or she is subject to immediate dismissal from the School of Business Administration.

## Advisors

No credit will be allowed for concentration courses taken below the 7000 level or courses taken outside of the School of Business Administration without prior written approval of the Graduate Director.

Students may not modify core course requirements without approval of the Graduate Director.

The Graduate Director retains final authority for the approval of all concentration courses.

For advising, students should contact the Office of Graduate Programs at 313-577-4510.

## Application for Degree

Prior to the semester in which a student intends to graduate, an online degree application must be filed with the University Records Office, 5057 Woodward. Applications and instructions are available on the University website (<http://www.wayne.edu>).

## Attendance Policy

Regular attendance is a necessary condition for success in university study. Course content includes classroom lecture and discussion, certain aspects of which may not be covered in examinations, quizzes, term papers, or homework assignments. Each Instructor will announce his or her attendance standards at the beginning of the term.

All candidates for degrees are expected to be present at commencement.

## Conduct

Each student is subject to the Student Due Process statute governing student activities and student behavior. Furthermore, it is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity includes the requirement that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. For example, 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, *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.

See University Code of Conduct (<http://www.doso.wayne.edu/code-ofconduct.pdf>) and School of Business Administration Code of Ethics (<http://www.busadm.wayne.edu/article.php?id=1269>)

## Course Level Requirement

M.B.A., M.S.A. and M.S.T. students are required to take all core and concentration/elective course work in classes reserved exclusively for graduate students. At Wayne State University, these classes are numbered at the 7000 level or above. **A graduate student must obtain the specific written approval of the Graduate Officer prior to registering for a course that is not reserved exclusively for graduate students. Credit will not be applicable to the degree if prior approval has not been obtained.**

## Course Sequencing

The M.B.A., M.S.A. and M.S.T. curricula have been designed to provide logical sequencing of subject matter. This means that students must observe all course prerequisites and limitations, and must complete *all* required foundation courses prior to beginning any core or concentration/elective courses.

The Strategic Management course (B A 7080) is an integrative capstone course that may *only* be taken in the last twelve credits, and *only* after completion of the other five core courses in the M.B.A. curriculum.

Similarly, the Seminar in Tax and Accounting Policy (ACC 7998) must be elected as part of the final nine credits in the M.S.A. and M.S.T. student's program.

Students who do not adhere to these regulations will be administratively withdrawn from the out-of-sequence course(s) and may not be allowed to register for further course work.

*Exception:* A student taking his/her last foundation course(s) may simultaneously enroll for one or more core courses, if the relevant foundation course or courses for the core course(s) has been satisfactorily completed.

## Course Repetition Policy

M.B.A., M.S.A. and M.S.T. students may not routinely repeat courses taken as part of their degree program requirements. While the repetition of certain required courses may be necessary if failing or unsatisfactory grades are earned, this should not be done without first consulting the Office of Graduate Programs at 313-577-4510).

Upon petition by the student, the Graduate Committee may authorize the repetition of *two* graduate courses during a student's M.B.A., M.S.A. or M.S.T. program, whereby the grade earned in the initial course attempt is deleted from the grade point total and grade point average calculations.

## Directed Study

A student can apply up to three credit credits of directed study course work to a School of Business Administration degree. Credit allowances (1-3) are predicated on the amount of time and effort to be spent in the study. Prior to enrollment, students must have completed all core courses in their respective graduate program (other than the capstone course) with a passing grade. If enrolled in the Master of Science in Accounting or the Master of Science in Taxation pro-

grams, students must have completed at least twelve credits of graduate accounting courses or obtained the approval of the Chairperson of the Department of Accounting.

## Enrollment Eligibility

Graduate-level courses offered by the School of Business Administration are open only to students who have been formally admitted to a Wayne State University graduate program or admitted as a graduate guest student. Students having undergraduate, post-bachelor, or any non-matriculated status are *not* eligible to take graduate courses. Graduate business courses include all courses numbered 6000-6100 and 7000 and above. All elections must be taken in accordance with an approved *Plan of Work*.

## Grade Appeal Procedure

Students disputing a final grade should first contact the instructor of the course informally. Should the dispute remain unresolved, the student may initiate a formal appeal. A copy of the School of Business Administration's grade appeal procedure is available in the Office of Graduate Programs, 103 Prentis Building, and on the School's website (<http://www.business.wayne.edu>).

Non-grade-related grievances should be brought directly to the appropriate departmental chairperson or to the Office of Graduate Programs. Additionally, the University Ombudsperson (see page 58) is available to all students for assistance in the resolution of University-related problems.

## Internships

Graduate Students can earn up to three credits in internships (ACC 7990, FIN 7890, GSC 7890, ISM 7890, MGT 7895, or MKT 7890) offered as S or U grades only, which can be applied toward their elective courses. In order to satisfy requirements for these courses, the student is expected to perform assigned tasks and responsibilities in a professional manner under the supervision of an employer for a minimum of 160 hours during the semester, and abide by the rules and regulations established by the employer and expected of all employees. The student commitment is for the entire semester even if the 160 hours have been completed prior to the end of the semester. Further, to be eligible, students must have completed all core courses in the respective graduate program (other than the capstone course) with a passing grade. If enrolled in the Master of Science in Accounting or the Master of Science in Taxation programs, students must complete at least twelve credits of graduate accounting courses or obtain the approval of the Chair of the Department of Accounting in order to enroll in an internship.

## Incomplete' Marks

The mark of 'I' which is not converted to a letter grade within one year from the time it was received will be changed to an 'F' (failure).

## Maximum Credit Load

A student employed full-time will normally not register for more than six to nine graduate credits. Graduate assistants are required to register for at least eight credits each semester.

## Online Courses

Students who enroll in on-line sections of any M.B.A. course should anticipate that, at the discretion of the instructor, they may be required to attend an in-class session for the final examination in the course.

## Passed-Not Passed Registration

Graduate students may *not* take graduate program requirements on a *passed-not passed* basis.

## Plan of Work

All course work must be in accordance with an approved Plan of Work on file in the Office of Graduate Programs, 103 Prentis Building. No credit will be granted for graduate courses in business administration taken at Wayne State University prior to admission to the graduate program in the School of Business Administration. **Only the Graduate Committee is authorized to approve changes affecting a student's foundation requirements or core courses.**

## Time Limitation for Program Completion

*Students have a six-year time limit to complete all 7000-level requirements.* The six-year period begins at the start of the semester during which the student takes his/her first 7000-level courses. Students who expect to exceed the time limitation must file a written request for an extension with the Assistant Dean for Student Services. The School reserves the right to revalidate credits which are over-age. In revalidation cases, the Graduate Committee will set a terminal date for completion of all degree requirements, including such additional requirements as may be prescribed to revalidate the over-age credits.

## Transfer of Core and Concentration/Elective Courses

Graduate transfer credit for core and concentration/elective courses from either a Wayne State University graduate program or a graduate program at another institution is not routinely granted. Students with a non-business undergraduate degree may only petition to transfer credit from an AACSB accredited M.B.A. program. A petition for transfer credit must be initiated by the student in the form of a letter to the Graduate Committee, prior to the completion of the first twelve credits in graduate course work. To be eligible for consideration for transfer of credit, the following conditions must be satisfied:

1. The course must have been taken at an AACSB accredited college or university;
2. The course must have been taken in a class reserved exclusively for graduate students;
3. A letter grade of 'B' (3.0) or higher must have been awarded; passed-not passed credit is not acceptable. A letter grade of 'B-minus' or less is not acceptable.
4. The course must be relevant to the student's Plan of Work as approved by the Graduate Committee.
5. The course may not be more than six years old at the time of graduation.
6. The course cannot have provided credit toward a prior degree.

A maximum of six semester credits (normally two courses) may be considered for transfer credit. In addition to evidence regarding the above six conditions, the student must submit additional supporting materials concerning any proposed transfer course. Course syllabi, examinations, class notes, texts, and the like constitute such materials.

## Waiver of Course Prerequisites

Requests for waiver of course prerequisites are not routinely granted. Waiver requests must be made in writing to the Graduate Committee and must include full documentation of the case. No waiver will be granted if the supporting documentation consists solely of professional experience proposed in lieu of course work.

## Waiver of Foundation Courses

Students are allowed to waive foundation course requirements (except B A 6005) based on equivalent course work taken at a regionally-accredited college or university. A grade of 'C' (2.0 g.p.a.) or above must have been earned in this course work. Normally these waivers are granted after review of the student's transcript(s). Students who believe additional waivers are warranted must submit evidence of course equivalency, including course syllabi, class notes, and textbooks. Waivers will not be granted on the basis of professional experience.

## Withdrawals from Class

Students should consult the instructor as to his/her policy on withdrawal from class, as well as Drop/Add procedures on page 29, for the University policy on withdrawal. Withdrawal and tuition refund policies are also included in the University Schedule of Classes, and located at <http://regwayne.edu/students/policies.php>.



# Financial Assistance

For general sources of graduate financial aid, see the section on Graduate Financial Assistance, beginning on page 26. Information pertinent to this School appears below.

## Scholarship Awards

The scholarships listed below give preference to students in the School of Business Administration. The School of Business Administration, through its scholarship committee, a departmental committee, or a joint committee of the School and an external organization can be directly involved in selecting the recipients of certain scholarship awards. The School is also asked to nominate student candidates for certain other scholarship awards though it may not participate in the selection process.

**School of Business Administration Alumni Association Endowed Scholarship.** Established to recognize scholastic achievement, to encourage continued progress, and to provide assistance to students in financing their education at Wayne State University.

**Stanton P. Bockneck Memorial Scholarship.** Designated for students demonstrating high academic achievement in accounting.

**Lawrence and Charlyne Braun Endowed Scholarship.** Established to recognize students who have displayed excellence in leadership, character and scholastic achievement.

**Sam and Leonard Fink Memorial Scholarship.** Awarded to business administration students demonstrating high academic achievement.

**Raymond M. Genick Endowed Scholarship in Small Business Management/ Entrepreneurship.** Awarded to an undergraduate or graduate student interested in small business management/ entrepreneurship who exhibits excellence in scholastic and leadership efforts.

**Charles Hagler Scholarship in Public Relations.** Designated for students demonstrating high academic achievement with a career interest in public relations.

**Jack A. Hamm and Bessie I. Hamm Endowed Scholarship.** Established to assist men and women who would otherwise be unable to attend the University due to the lack of necessary funds.

**Norris and Vivlore Hitchman Endowed Scholarship and Mentorship Fund:** Established to recognize scholastic achievement of students demonstrating high academic achievement.

**Wilfred Kean Memorial Scholarship.** Established in 1989 in memory of alumnus Wilfred Kean. Designated for a student enrolled in evening classes in the School of Business Administration.

**Bruce E. Mullican Memorial Scholarship.** Established in 1984 in memory of M.B.A. alumnus Bruce E. Mullican. Designated for students with demonstrated interest and involvement in small business management.

**Marie L. Nash Memorial Endowed Scholarship.** Recognizes scholastic achievement of female graduate students in the School of Business Administration.

**Brian A. Sturtz Annual Scholarship Fund.** Established to recognize scholastic achievement, to encourage continued progress, and to provide assistance to business students in financing their business education.

## Graduate Assistantships

A limited number of graduate research assistantships are available. For further information the student should write to the department chairperson in his/her area of interest, or to the Office of Graduate Programs, School of Business Administration, Wayne State University, Detroit, Michigan 48202.

## Additional Assistance

Several assistance programs are administered by and the Office of Financial Aid, and by the Graduate School (6305 Maccabees Building; 313-577-2172). The Office of Financial Aid (Welcome Center; 313-577-3378) assists students enrolled in degree programs on at least a half-time basis, who do not have sufficient personal or family financial resources to attend the University. See the section on graduate financial assistance, page 26.

The following opportunities may be of special interest to students in the School of Business Administration:

**Graduate Professional Scholarships:** The Graduate School sponsors one competition for Graduate-Professional Scholarships for each academic year. Scholarships cover tuition for the full academic year (fall and winter terms) for qualified applicants pursuing graduate (master's or Ph.D.) or advanced professional (Ed.D., M.S.W., Pharm.D.) degrees in all University programs. Awards are available to both full-time and part-time students. Students receiving a full-time award receive tuition coverage up to twelve graduate credits per term and are required to enroll in a minimum of eight graduate credits per term. Students receiving a part-time scholarship receive up to six graduate credits per term.

Students holding graduate teaching or research assistantships, or other tuition-paying fellowships, internships, traineeships or scholarships, and salaried or full-time employees of Wayne State University are not eligible for these scholarships. Additional information and application forms are available from the Scholarships and Fellowships Office of the Graduate School.

# Support Services and Organizations

## Office of Graduate Programs

The Office of Graduate Programs is responsible for credential evaluation, admissions processing, advising, and graduation certification of business administration students. In addition, Student Services personnel prepare and distribute the Plan of Work for students enrolled in graduate and undergraduate programs.

Any student seeking academic, vocational or personal counseling should make an appointment to see a member of the counseling staff: 313-577-4511.

## Career Planning and Placement

The School of Business Administration has its own placement department that is part of the Office of Graduate Programs. The office offers students assistance in making informed career decisions and securing employment. Individual and group assistance is available on resume writing, interview techniques and business etiquette. For more information, call 313-577-4781.

## Institute for Organizational and Industrial Competitiveness (IOIC)

IOIC provides companies with current information about the elements of organizational competitiveness; fosters interaction among executives, policy makers and academics; and increases the exposure of students to the opportunities and challenges confronting organizations. The Institute facilitates and supports research to assist companies in gaining and sustaining a competitive advantage. For further information, call 313-577-4501.

## U.S.-Canada Border Policy Institute

The Institute studies issues related to the U.S.-Canada border, security, trade and transportation. The Institute holds seminars and provides training on border issues. For further information, call 313-577-4525.

## Computing Resources

The School of Business Administration is committed to providing Business School students with access to state-of-the-art computing and support. The school has an extensive array of computer equipment and software available for student use including three computing laboratories, one of which serves as a student walk-in facility and the other two laboratories are designated for classroom usage. The Student Walk-In Laboratory is reserved for business students only.

All the machines have current operating systems, with access to thirty different software packages, Internet, e-mail system, the University mainframe and local area network financial datasets such as CRSP and Compustat. Students have access to numerous databases on-campus and off-campus through the library information network. Laboratory Staff is on hand to answer questions on various software packages.

In addition to the Walk-In computer laboratories in the School that are open five days a week, students have twenty-four-hour access to the walk-in laboratory located in the David Adamany Undergraduate Library on the main campus. Additional computing facilities are also available at main campus and extension center locations.

The University has also set up wireless access points for the students on main campus allowing students the ability to use laptops



and PDAs to access the library resources in classrooms or in common areas.

## Student Organizations

**Beta Gamma Sigma** is the national honor society for students in business administration. The Wayne State chapter was installed in national membership in March 1979. Beta Gamma Sigma is the only scholastic honor society recognized by the American Assembly of Collegiate Schools of Business, the major accrediting body for schools of business administration. Election to membership in this honor society is the highest scholastic honor that a student in business administration can achieve. To be eligible for membership, students must rank in the upper five percent of their junior class, or the upper ten percent of their senior class, or rank in the upper twenty percent of those receiving master's degrees. Membership is by invitation only.

**Beta Alpha Psi** is a national honorary organization for accounting, finance and information systems students. It encourages and promotes networking opportunities through speakers from various firms, special projects, and community service. They also provide free tutoring for introductory accounting courses.

**Delta Sigma Pi**, an international professional fraternity in business administration, organized a local chapter at Wayne State University in 1949. The Wayne State Chapter seeks to enhance the educational, social, and professional experiences of its members through association with other students, faculty, and members of the professional business community.

**The International Business Association (IBA)** was formed to promote an understanding of international business practices through programs and information dissemination for students. The organization aims to establish interaction between business students and the international business community.

**National Association of Black Accountants (NABA)** is a professional organization that sponsors speaking events and other services to its members and the community.

**The Student Senate** is the official student government body of the School of Business Administration and is composed of two representatives from each recognized Business Administration student organization, at-large members elected from the student body, Student Council representatives, other students appointed by the Dean, the faculty or School advisor ex officio, and the Dean of the School ex officio.

**The Supply Chain Management Association** promotes an understanding of supply chain management, and is involved with student interaction, industry speakers, case competitions, etc.

Additional information regarding specific student organizations can be obtained from the School of Business Administration Student Senate Office (313-577-4783), or the University Student Center and Program Activities Office (313-577-3444).

# Administration and Faculty of the School

*Interim Dean:* Margaret L. Williams

*Interim Associate Dean for Research and Graduate Programs:*  
Ranjan D'Mello

*Interim Associate Dean for Undergraduate Programs:* Margaret Smoller

*Assistant Dean of Student Services:* Linda S. Zaddach

*Chairperson, Department of Accounting:* Randolph Pashcke

*Interim Chairperson, Department of Finance:* Mbodja Mougoue'

*Interim Chairperson, Department of Management and Information Systems:* Toni M. Somers

*Chairperson, Department of Marketing and Global Supply Chain Management:* John C. Taylor

*Director, Career Planning and Placement:* Amber Conway

*Director, Development:* Frank Doria

*Business Manager:* Lakshmi Sabapathy

*Director, IT Department:* Richard Lerman

*Director, Marketing Communications:* Jenny Powell Grosvenor

## Professors

Richard F. Beltramini, B. Anthony Billings, Abhijit Biswas (Kmart Chair), Hugh M. Cannon (Adcraft Club/Leonard Simons-Larry Michelson Professor in Advertising), Mai Iskandar Datta, Sudip Datta (T. Norris Hitchman Endowed Chair), Celia R. Livermore-Romm, James E. Martin, Marick Masters, Fred Morgan, Irvin D. Reid, Alan Reinstein (Husband Professor), Toni M. Somers, William H. Volz, Larry J. Williams, Margaret L. Williams, Attila Yaprak

## Associate Professors

Mark E. Bayless, Timothy W. Butler, Scott D. Julian, Ranjan D'Mello, Cathleen Miller, Santanu Mitra, Mbodja Mougoue, Thomas J. Naughton, Kelly R. Price, Arik Ragowsky, Margaret A. Smoller, Albert D. Spalding, Jr., Myles S. Stern, Jeffrey J. Stoltman, John Taylor, Amanuel Tekleab, Harish L. Verma, John D. Wagster, David L. Williams

## Assistant Professors

Angela Andrews, Sujay Dutta, Abhijit Guha, Jia Hao, Atif Ikram, Xiaowen Jiang, Pyung Kang, Cheol Lee, Jaegul Lee, Kun (Carl) Liu, Natalia Lorinkova, Pamela Schmidt, Andrea Tangari, Maef Woods, Tingting Yan.

## Senior Lecturers

David Huff, Deborah Jones, Ariel S. Levi, David Lucas, Sherilynn J. Perelli, Paul Reagan, Tina Walsh

## Lecturers

William Burrell, Brett Crawford, Elisia Hopkins, Frank Lamarra, Randolph Paschke, Mark Savitskie, Daniel Weimer

## Faculty Emeriti

Gerald Alvin, Robert C. Bushnell, Frank Carmone, Bruce E. DeSpelder, Victor C. Doherty, Donald E. Gorton, James Hamilton, Edwin F. Harris, George Jackson, J. Patrick Kelly, Catherine Kirchmeyer, K.S. Krishnan, James T. Low, John G. Maurer, Richard N. Osborn, Barbara Price, Edward A. Riordan, Jone M. Rymer, Milton H. Spencer, Louis L. Stern, Fred P. Unruh, David Verway, Frank L. Voorheis, James F. Wallis

## DIRECTORY OF THE SCHOOL

Website: <http://www.business.wayne.edu>

Telephone area code: 313

Dean: 226 Prentis Building; 577-4501;  
BusinessDean@wayne.edu

Associate Dean for Research and Graduate Programs:  
226 Prentis Building; 577-4501;  
BusinessGradADean@wayne.edu;

Associate Dean for Undergraduate Programs:  
226 Prentis Building; 577-4501;  
BusinessUgradADean@wayne.edu;

Assistant Dean of Student Services:  
200 Prentis Building; 577-4510; BusinessAstDean@wayne.edu

Administrative Services:  
105M Prentis Building; 577-4502; BusinessAdminSvc@wayne.edu

Director, Career Planning and Placement:  
240 Rands House; 577-4781; Bizcareers@wayne.edu

Director, Computing Services:  
6.3 Prentis Building; 577-1624; BusinessCIT@wayne.edu

Director, Institute for Organizational and Industrial  
Competitiveness (IOIC):  
217 Prentis; 577-4484; BusinessIOIC@wayne.edu

Director, Manufacturing Information Systems Center (MISC):  
300 Prentis Building; 577-7837; BusinessMISC@wayne.edu

Director, Marketing and Communications:  
226 Prentis Building; 577-0202; Jenny@wayne.edu

Office of Graduate Programs: 103 Prentis Building; 577-4511

Office of Undergraduate Student Services:  
200 Prentis Building; 577-4510; BusinessAstDean@wayne.edu

Student Senate Office:  
116 Rands House; 577-4783; sbastudentsenate@wayne.edu

Director, School of Business Administration Development:  
226 Prentis Building; 577-9212; BusinessDev@wayne.edu

Department of Accounting:  
100 Rands House; 577-4530; Rcpaschke@wayne.edu

Department of Finance:  
300 Prentis Building; 577-4525; Bizoffice@wayne.edu

Department of Management and Information Systems:  
300 Prentis Building; 577-4525; Bizoffice@wayne.edu

Department of Marketing and Supply Chain Management:  
300 Prentis Building; 577-4525; Bizoffice@wayne.edu

Undergraduate Program Information: 577-4505

Graduate Program Information: 577-4510

## Graduate Courses

The following courses, numbered 7000-9999, are offered for graduate credit. Courses numbered 0900-6999, which are offered for undergraduate credit only, may be found in the Undergraduate Bulletin. For interpretation of numbering system, signs and abbreviations, see page 652.

### ACCOUNTING (ACC)

#### **7040 Intermediate Financial Accounting I. Cr. 3**

No credit after ACC 5100 and ACC 5110. Prereq: B A 6000 or undergrad. equiv. 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. (S,F)

#### **7050 Intermediate Financial Accounting II. Cr. 3**

Prereq: ACC 7040 or undergrad. equiv. 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. (F,W)

#### **7100 Financial Accounting for Managers. Cr. 3**

Prereq: B A 7000. No credit for students who have taken ACC 5100 and ACC 5110 or undergraduate equiv. financial accounting courses. No credit for MSA or MST students. Financial accounting theories, principles and standards; interaction between financial accounting concepts and management decisions. (I)

#### **7115 Financial Statement Analysis. Cr. 3**

Prereq: ACC 7050 or ACC 7100 or undergrad. equivs. 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. (W)

#### **7120 (ACC 5170) Introduction to Taxation: Individuals. (ACC 7120) Cr. 3**

Prereq: admission to a graduate program. No credit after ACC 5170 or undergrad. equiv. 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. (F,S)

#### **7122 (ACC 5120) Advanced Accounting I. (ACC 7122) Cr. 3**

No credit after ACC 5120 or other undergrad. equiv. course. Prereq: ACC 7050 or ACC 5115 or other undergraduate equiv. course. Theory and practical applications of accounting for consolidation and combination of business entities and accounting for foreign currency transactions and interim and segment reporting. (F)

#### **7125 Advanced Accounting II. Cr. 3**

Prereq: ACC 7122 or ACC 5120 or other undergrad. equiv. course. Theory and practical applications of accounting for derivatives, hedging transactions, and corporate bankruptcy reorganizations and liquidations; also includes accounting for partnerships and SEC reporting requirements. (I)

#### **7130 Intermediate Managerial Accounting. Cr. 3**

Prereq: B A 7000. No credit after ACC 5160 or undergrad. equiv. 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. (F,W)

#### **7145 Accounting Systems: Design and Controls. Cr. 3**

Prereq: ACC 7040 or ACC 5100, or equiv.; and ISM 7500. No credit after ACC 5130 or equiv. Implementation of accounting systems in the computer-intensive business environment; methods for develop-

ing and documenting Accounting Information Systems (AIS); evaluation of controls; work with accounting software package. (F)

**7148 ERP Systems and Business Integration. Cr. 3**

Prereq: B A 7000 and ISM 7500 or undergrad. equivs. 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. (Y)

**7155 Forensic Accounting. Cr. 3**

Prereq: B A 6000 or equiv. and admission to graduate program. 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. (F)

**7165 Internal Audit I. Cr. 3**

Prereq: B A 6000 and B A 7000 or undergraduate equivalents. Theory of internal audit; the context within which internal auditing functions; its relation to the external audit and the audit committee. (F,W)

**7168 Internal Audit II. Cr. 3**

Prereq: ACC 7165. Continued study of principles, theory and standards of internal auditing with emphasis on practical application; includes risk assessment and management, internal controls, corporate governance, planning and execution, report writing and ethics. (W)

**7170 International Accounting. Cr. 3**

Prereq: ACC 7050 or undergrad. equiv. Issues in international business environment: currency translations; consolidated statements for multinational corporations, inflation accounting; other issues. (F)

**7180 Auditing. Cr. 3**

Prereq: ACC 7050 or undergrad. equiv. Principles and procedures of internal and external auditing; statistical sampling and other modern auditing techniques; professional standards and responsibilities of the auditor. (F,W)

**7188 (ACC 5180) Governmental and Not-for-Profit Accounting. (ACC 7188) Cr. 3**

Prereq: ACC 7050 or undergrad. equiv. No credit after ACC 5180 or undergrad. equiv. 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. (T)

**7190 Advanced Auditing. Cr. 3**

Prereq: ACC 7180 or equiv. 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. (W)

**7192 Accounting Theory. Cr. 3**

Prereq: ACC 7180; or undergrad. accounting major; or consent of instructor. Models, hypotheses, and concepts that form the foundation for the development of accounting theories and principles. (I)

**7300 Accounting and Tax Research and Professional Communications. Cr. 3**

Prereq: B A and B A 7000 or undergraduate equivs.; ACC 7120 or undergrad. equiv., or ACC 7120 as coreq. Course must be completed within first twelve credits of the M.S.A. and/or M.S.T. programs. 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. (T)

**7310 Business and Professional Ethics for Managers and Accountants. Cr. 3**

Prereq: admission to a graduate program. 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. (T)

**7320 (ACC 5270) Introduction to Taxation: Business Entities. (ACC 7320) Cr. 3**

Prereq: ACC 7120 or undergraduate equiv. course. 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. (F,S)

**7325 Advanced Tax Research and IRS Procedures. Cr. 3**

Prereq: ACC 7300 and ACC 7320. 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. (W)

**7330 Taxation of Corporations and Shareholders I. Cr. 3**

Prereq: ACC 7320 and 7300. Advanced taxation issues related to the formation of corporations, their operation, treatment of corporate distributions, liquidations or dissolutions and the tax effects on the corporations and their shareholders. (W)

**7335 Taxation of Corporations and Shareholders II. Cr. 3**

Prereq: ACC 7300 and ACC 7320. 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. (F)

**7340 Taxation of Pass-Through Entities. Cr. 3**

Prereq: ACC 7300 and ACC 7320. 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. (F)

**7400 Taxation of International Business and Multinational Transactions. Cr. 3**

Prereq: ACC 7300 and 7320. 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. (F)

**7410 Tax Accounting Methods and Deferred Income Taxes. Cr. 3**

Prereq: ACC 7120; ACC 7050 or ACC 7100, or undergrad. equivs. Tax accounting issues faced by managers, including tax accounting methods and periods, inventory methods, tax accrual workpapers, and other issues involving financial accounting for deferred income taxes, including SFAS 109, APB 23 and FIN 48. (Y)

**7420 Taxation by State and Local Jurisdictions. Cr. 3**

Prereq: ACC 7300 and ACC 7320. Examination of state and local income, franchise, property, sales, and use taxes; definition of residency/nexus; allocation and apportionment of income and other tax effects related to doing business in multiple states. (I)

**7430 Taxation of Exempt Organizations. Cr. 3**

Prereq: ACC 7300 and ACC 7320. Laws, judicial decisions and administrative rules applicable to tax exempt organizations with respect to their formation, operation and dissolution, including tax policy and regulatory issues to such organizations. (I)

**7440 Financial and Estate Planning. Cr. 3**

Prereq: ACC 7120 or undergrad. tax course. Financial and estate planning for executives, professionals, and business owners. Tax

and nontax personal financial goals considered in light of income tax requirements, trust accounting rules, and estate and gift taxation. (Y)

**7450 Taxes and Business Strategy. Cr. 3**

Prereq: ACC 7120. 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. (W)

**7590 Topics in Accounting and Taxes. Cr. 3**

Prereq: ACC 7100, ACC 7120 or undergrad. equiv. courses. Current developments in the profession of accounting and taxes due to new professional standards, government regulations, international issues, changing environment. (I)

**7990 Internship in Accounting or Tax Practice. Cr. 1-3**

Prereq: completion of all core courses; prior approval of chairperson; approved internship proposal form on file in Office of Student Services prior to registration. Offered for S and U grades only. 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. (T)

**7992 Topics in Accounting. Cr. 3**

Prereq: ACC 7100 or undergrad. equiv. course. Current issues and developments in public accounting: theoretical, practical and regulatory aspects. (I)

**7995 Directed Study in Accounting. Cr. 1-5 (Max. 5)**

Prereq: completion of all core courses; prior approval of chairperson; approved directed study proposal form on file in Office of Student Services prior to registration. Opportunity to conduct research under the supervision of a member of the graduate faculty in areas of special interest to student and faculty member. (T)

**7996 Topics in Tax. Cr. 3**

Prereq: ACC 7320 or ACC 5270 or equiv. Current issues and developments in tax and fiscal policy: theoretical, practical, political and regulatory aspects. (I)

**7998 Seminar in Tax and Accounting Policy. Cr. 3**

Prereq: ACC 7100 or equiv., ACC 7120 or equiv.; coreq: ACC 7300. Must be elected as part of final 12 credits in program. 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. (T)

## BUSINESS ADMINISTRATION (B A)

**6000 Introduction to Accounting and Financial Reporting. Cr. 2**

Prereq: admission to a graduate program. Introduction to accounting principles and the understanding and analysis of financial statements. (T)

**6005 Basics of Financial Management. Cr. 2**

Prereq: B A 6000 or equiv. and admission to graduate program. 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. (T)

**6010 Basics of Business Economics. Cr. 2**

Prereq: graduate standing. Survey course; fundamental principles that guide decision making in market-based economic systems. (T)

**6015 Marketing Foundations. Cr. 2**

Prereq: admission to a graduate program. Fundamental principles that guide decision making in market-based management systems. (T)

**6020 Contemporary Principles of Management. Cr. 2**

Prereq: admission to a graduate program. Basic principles of organization theory and behavior in contemporary organizational settings. (T)

**6025 Basics of Production/Operations Management. Cr. 2**

Prereq: admission to graduate program. Overview of operations management from a strategic perspective. Emphasis on problems and their solutions. (T)

**6090 Quantitative Analysis: Theory and Application. Cr. 2**

Prereq: one college course in finite math or higher; admission to a graduate program. Statistics of association and statistical inference from samples. Correlation, analysis of variance, multivariate regression, non-parametric statistics. (T)

**6100 Analytical Writing for Business. Cr. 2**

Prereq: admission to a graduate program. Waived only for students scoring at least 3.5 on GMAT writing assessment. Development of analytical writing skills, based on diagnostic evaluation of GMAT analytical writing assessment. (T)

**7000 Managerial Accounting. Cr. 3**

Prereq: completion of all foundation requirements. No credit for undergraduate accounting majors. No credit after ACC 6020. Fundamental principles; preparation and utilization of financial information for internal management purposes. (T)

**7020 Corporate Financial Management. Cr. 3**

Prereq: B A 6005; completion of all foundation requirements; admission to a graduate program. Development of tools to evaluate investment and financial decisions in modern global organizations. (T)

**7040 Managing Organizational Behavior. Cr. 3**

Prereq: completion of all foundation requirements. No credit for undergraduate management majors. Contemporary issues in managing and leading people and organizations. Topics include: creativity, culture change, leadership, teamwork, cross-cultural factors, performance management, and organizational change. (T)

**7050 Marketing Strategy. Cr. 3**

Prereq: completion of all foundation requirements. No credit for undergraduate marketing majors. 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. (T)

**7070 Social Perspectives on the Business Enterprise. Cr. 3**

Prereq: completion of all foundation requirements. Political, social, legal, ethical, regulatory, environmental, and global issues that interrelate with business decisions in the societal fabric. (T)

**7080 Strategic Management. Cr. 3**

Prereq: completion of all core courses; to be taken in final 12 credits of M.B.A. program; consent of advisor at 313-577-4510. 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. (T)

**7260 Theory of Constraints: Breakthrough Solutions. Cr. 3**

Prereq: completion of foundation requirements or consent of instructor. 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. (I)

**7530 Societal and Ethical Issues in the Information Age. Cr. 3**

No credit after ISM 7530. Prereq: completion of foundation requirements. Issues such as: computer crime, privacy, copyrighting of software; other ethical issues related to use of business systems and information systems. (Y)

**7560 Global Perspectives in Management. Cr. 3-4**

Open only to M.B.A. students; others by consent of instructor. Prereq: B A 7040. Open only to M.B.A. students; others by consent of instructor. Current thinking in international management theory and practice. Key topics include management of international corporations, international human resource management, and cross-cultural communication and negotiation. (Y)

**7995 Directed Study. Cr. 1-3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Advanced independent readings and research under supervision of a graduate faculty member, in areas of special interest to student and faculty member. (T)

**8050 Seminar in Marketing Theory. Cr. 3**

Prereq: B A 7050 or equiv. or consent of approved doctoral advisor. 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. (B)

**8052 Research in Marketing and Consumer Behavior. Cr. 3**

Prereq: B A 8050 or consent of approved doctoral advisor. Reading seminar on issues in consumer behavior research. Consumer and organizational buying behavior, global marketing, market segmentation and analysis, product development and brand management, pricing, integrated marketing communications, supply-chain management. Publishable paper expected of students. (B)

**8054 Seminar in Marketing Strategy. Cr. 3**

Prereq: Consent of approved doctoral advisor. 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. (Y)

**8056 Special Topics Seminar in Marketing. Cr. 3**

Prereq: Consent of approved doctoral advisor. Product/branding and the distribution/supply chain functions; public policy issues in marketing and international business theory and the theory of the multinational enterprise. Topical coverage predicated on area of faculty interest, department and School staffing needs, and dissertation topic interests of the doctoral students in the cohort. (B)

**8058 Advanced Topics in Consumer Behavior. Cr. 3**

Prereq: B A 8050 or consent of approved doctoral advisor. 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. (Y)

**8120 Theory of Finance. Cr. 3**

Prereq: FIN 7220 or equiv. or consent of approved doctoral advisor. Modern corporate finance theory for finance doctoral students. (Y)

**8121 Seminar in Corporate Finance. Cr. 3**

Prereq: B A 8120 or consent of approved doctoral advisor. Theoretical and empirical studies in corporate finance for finance doctoral students. (Y)

**8122 Empirical Methods in Finance. Cr. 3**

Prereq: B A 8120 or consent of approved doctoral advisor. Fundamental asset pricing theories and empirical methods used in modern financial economics for finance doctoral students. (Y)

**8123 Seminar in Corporate Governance. Cr. 3**

Prereq: B A 8120 or consent of approval doctoral adviser. Theories and empirical studies in corporate governance for finance doctoral students.

**8124 Seminar in Asset Pricing: Cr. 3**

Prereq: B A 8120 and B A 8122 or consent of approved doctoral adviser. Empirical studies in asset pricing for finance doctoral students.

**8220 Seminar in Organizational Behavior. Cr. 3**

Prereq: B A 7040 or equiv. or consent of approved doctoral advisor. 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. (Y)

**8221 Seminar in Strategic Management. Cr. 3**

Prereq: B A 8220 or consent of approved doctoral advisor. Theories and concepts in the strategic management literature including contemporary concepts that apply to the international context. (Y)

**8420 Seminar in Organizational Theory. Cr. 3**

Prereq: B A 8220 or consent of approved doctoral advisor. Theories of organization for doctoral students. (Y)

**8777 Professional Development Seminar for Business Doctoral Students. Cr. 1-3 (Max. 3)**

Prereq: admission to School of Business Administration doctoral program. Exposure to professional development areas in preparation for productive academic careers; teaching, research writing, and academic culture. (Y)

**8900 Development of Effective Research Programs in Business. Cr. 3**

Prereq: B A 8122, B A 8420, B A 8058, or consent of doctoral advisor. For doctoral students with a major cognate in finance, management, or marketing. Development, design and execution of effective research projects. (Y)

**8995 Special Research Topics in Business. Cr. 1-3 (Max. 3)**

Advanced research topics for business administration Ph.D. students. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-9**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: B A 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following B A 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: B A 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following B A 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: B A 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following B A 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in B A 9991 - B A 9994. Offered for S and U grades only

## FINANCE (FIN)

**7090 Money and Capital Markets. Cr. 3**

Prereq: B A 7020; completion of all foundation requirements; admission to a graduate program. Financial intermediaries; the capital markets; the money market and interest rates. (F,W)

**7220 Advanced Managerial Finance. Cr. 3**

Prereq: B A 7020. Advanced topics in managerial finance, including leasing, merger valuation, reorganization, interactions of investment and financing decisions, and critical evaluation of alternative firm valuation theories. (F,W)

**7229 Corporate Valuation: Techniques, Models and Strategic Applications. Cr. 3**

Prereq: B A 7020. Tools, techniques and models used to address valuation problems in finance; emphasis on corporate strategic valuation. (Y)

**7230 Investment Policies. Cr. 3**

Prereq: B A 7020. 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. (F,W)

**7290 Topics in Finance. Cr. 3**

Prereq: B A 7020. 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. (Y)

**7340 (FIN 6997) Futures and Options. (FIN 7340) Cr. 3**

Prereq: B A 7020. Valuation of options, futures and swaps contracts on equities, fixed instrument securities and foreign exchange; use of these derivatives for risk management. (Y)

**7820 Managerial Economics. Cr. 3**

Prereq: B A 7020; completion of all foundation requirements; admission to a graduate program. No credit for undergraduate majors in business economics. Economic aspects of corporate management. Business forecasting; production, inventory, and cost control; pricing policies and practices; governmental regulation of business. (T)

**7870 International Finance. Cr. 3**

Prereq: B A 7020. 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. (Y)

**7890 (FIN 5890) Internship in Finance. Cr. 3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Offered for S and U grades only. Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in finance. (I)

**7995 Directed Study. Cr. 1-3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Advanced independent readings and research under the supervision of a graduate faculty member in areas of special interest to student and faculty member. (T)

## GLOBAL SUPPLY CHAIN MANAGEMENT (GSC)

**7010 Desktop Decision Tools. Cr. 3**

Prereq: B A 6090 or equiv. No credit after ISM 7010. Capabilities of decision tools available for personal computers. Methods of forecasting, project management, logistics decisions, cost/benefit analysis, efficiency evaluations, quality methods, and methods addressing other common management challenges. (T)

**7620 Global Supply Chain Management. Cr. 3**

Prereq: B A 7050 or consent of instructor. 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. (F)

**7650 Strategic Procurement. Cr. 3**

No credit after MKT 7650. 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. (W)

**7890 Internship in Global Supply Chain. Cr. 3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Offered for S and U grades only. Student works a minimum 160 hours for fifteen weeks in an entry-level management position in global supply chain. (T)

**7991 Principles of Quality Management. Cr. 3**

Prereq: successful completion of all M.B.A. foundation requirements. 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. (S)

**7992 Methods of Quality Management. Cr. 3**

Prereq: GSC 7991. 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. (F,W)

**7995 Directed Study in Global Supply Chain. Cr. 1-3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Advanced independent readings and research under supervision of a graduate fac-

ulty member, in areas of special interest to student and faculty member. (T)

## INFORMATION SYSTEMS MANAGEMENT (ISM)

### 7500 Management Information Systems. Cr. 3

Prereq: admission to a graduate program; completion of all foundation requirements. No credit after ISM 4630 or ACC 6070. Exploration of fundamental and introductory topics in information systems and technology, including concepts of design, implementation, control and evaluation of computer-based information systems for business data processing, office automation, information reporting, and decision making. (Y)

### 7510 Database Management. Cr. 3

No credit after ISM 5993. 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. Material Fee As Indicated In The Schedule of Classes (Y)

### 7520 Information Systems Design. Cr. 3

No credit after ISM 5820. 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, internet-working 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. (Y)

### 7540 Telecommunications and Networks. Cr. 3

Prereq: ISM 7500 or equiv. No credit after ISM 5993. Business data communications: concepts and terminology, approaches to designing systems, standards, hardware and software, network architectures, and distributed information systems. Technical and managerial aspects. (Y)

### 7550 Management of Information Technology. Cr. 3

Prereq: ISM 7500. No credit after ISM 6997; no credit if student took ISM 7500 Fall 1997 through Fall 2000. Information system structures, strategies and policy. Emphasis on case studies and projects involving information technology. (Y)

### 7560 Survey of E-Commerce. Cr. 3

Prereq: ISM 7500. Introduction to electronic commerce: scope, business-to-business and business-to-consumer activities; supporting software, hardware, networking, security technologies; readings and online discussions. (T)

### 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. (T)

### 7575 (ISM 4575) 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. (Y)

### 7890 Internship in Information Systems and Management. Cr. 3

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Offered for S and U grades only. Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in information systems. (Y)

### 7995 Directed Study in Information Systems and Management. Cr. 1-3 (Max. 6)

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. (Y)

### 8000 Seminar in Information Systems and Management. Cr. 3

Prereq: ISM 7500. Current developments and emerging trends. (T)

## MANAGEMENT (MGT)

### 6840 (MGT 6840) Project Management. (I E 6840) (SYE 6840) Cr. 1-4

Prereq: I E 6850 or B A 6020 or equiv.; or consent of instructor. Presentation of project management strategies, tools and techniques. Development of management skills for team-building and corporate strategic planning. (Y)

### 7611 Managing 21st Century Workers, Careers, and Lifestyles. Cr. 3

Prereq: B A 7040. Facets of workplace diversity including cultural diversity, new generations of workers, and family structures; alternative career logics; work configurations emerging from new technologies. (Y)

### 7620 Complex Organizations. Cr. 3

Prereq: B A 7040. 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. (T)

### 7630 Organizational Change and Development. Cr. 3

Prereq: B A 7040. Analysis of the impact of dynamic forces, particularly globalization, on the theory, methods, and skills involved in designing and implementing planned changes in organizations. (I)

### 7640 Management of Human Resources. Cr. 3

Prereq: B A 7040. 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. (T)

### 7650 Strategic Human Resource Management. Cr. 3

Prereq: MGT 7640. 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. (Y)

### 7660 Entrepreneurial Management. Cr. 3

Prereq: B A 7040. 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. (Y)

**7700 Leadership and Management of Innovation and Technology. Cr. 3**

Prereq: MGT 7620 or consent of instructor. Technology and innovation in corporations. Building on principles of leadership and management, consideration of technology, innovation, organizational effectiveness and global competition. (Y)

**7710 Leadership of Technical Organizations. Cr. 2**

Prereq: B A 7040 or MGT 7620 or consent of instructor. Key leadership principles required to manage technical professionals in complex and dynamic conditions. Team building, conflict resolution, cross-functional project management and communication skills in global contexts. (Y)

**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 used, in which participants plan for negotiations and bargain contract issues. (Y)

**7770 Union Contract Administration. Cr. 3**

Prereq: MGT 7750. Daily union-management relations. Grievance handling and arbitration. The causes of labor-management conflicts under a union contract. (Y)

**7780 (MGT 7780) Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice. (D R 7210) Cr. 3**

Prereq: graduate standing. Theoretical foundations of processes of negotiation, mediation, and multi-party collaborative problem solving. Skill building simulation to integrate theory and practice. (Y)

**7790 Compensation Administration. Cr. 3**

Prereq: MGT 7640. 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. (Y)

**7810 (ELR 8000) International Industrial Relations and Human Resources. Cr. 3**

Prereq: MGT 7640, 7750. Industrial relations and human resource management from an international perspective. Topics include: international investment, industrial relations strategies of U.S. multinationals, international relations systems in North America, Western Europe, and Asia-Pacific regions. (I)

**7815 Strategic Leadership. Cr. 3**

Prereq: B A 7040. Academic and practitioner views of strategic leadership to understand the dynamics of leadership influence in complex organizations. (F,W)

**7816 Leading in Organizations. Cr. 3**

Prereq: B A 7040. Leadership competency development. Participant assessment precedes developmental planning and the formation of feedback and support networks. (Y)

**7895 Internship in Management. Cr. 3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Offered for S and U grades only. Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in management. (T)

**7995 Directed Study in Management. Cr. 1-3 (Max. 5)**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Advanced independent readings and research under supervision of graduate faculty member in areas of special interest to student and faculty member. (T)

**8000 Seminar in Management. Cr. 3**

Prereq: B A 7040. Selected topics in the management and organizational sciences. (I)

## MARKETING (MKT)

**7150 Global Automotive Marketing Strategy. Cr. 3**

Prereq: completion of all foundation requirements or consent of instructor. No credit after B A 7050. Marketing concepts, strategies, and tactics in global automotive industry. Marketing principles, role of marketing, target market selection, segmentation, brand management, distribution systems. (Y)

**7430 Advertising Management. Cr. 3**

Prereq: B A 7050. 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. (F,W)

**7450 Business Research and Methodology. Cr. 3**

Prereq: B A 7050 or consent of instructor. 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. (T)

**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. (T)

**7470 Consumer and Industrial Buying Behavior. Cr. 3**

Prereq: B A 7050. 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. (T)

**7500 International Marketing Strategy. Cr. 3**

Prereq: B A 7050 or consent of instructor. 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. (W)

**7600 The North American Economy. Cr. 3**

Prereq: MKT 7460 or consent of instructor. Role of North America in the world economy; trade, investment, resource and people flows within and outside North America. Cultural and ethnic configuration, demographic movements, labor, environment, energy and public policy issues surrounding NAFTA. Political perspectives. (I)

**7700 Management of Retail Enterprises. Cr. 3**

Prereq: B A 7050. 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. (I)



**7870 Seminar in Marketing. Cr. 3**

Prereq: B A 7050 and consent of instructor. In-depth exploration of new and important subjects or techniques in marketing. Topics vary by semester; consult instructor. (I)

**7890 Internship in Marketing. Cr. 3**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Offered for S and U grades only. Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in marketing. (T)

**7995 Directed Study in Marketing. Cr. 1-3 (Max. 5)**

Prereq: completion of core courses (except B A 7080) and written consent of graduate officer and department chair. Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. (T)





College of Education

DEAN: Carolyn M. Shields

# Foreword

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 professional educators who have the commitment and competence to help young people achieve dignity, preserve individuality, develop democratic values, and find self-fulfillment.

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 educator many opportunities for developing a high level of 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.

## Graduate Degrees and Certificates and Post Bachelor's Certificates

*MASTER OF ARTS IN TEACHING with majors in*

*Elementary Education — with concentrations in*

*Art Education*  
*Bilingual-Bicultural Education*  
*Children's Literature*  
*Early Childhood Education*  
*General Elementary Education*  
*Mathematics Education*  
*Science Education*

*Social Studies Education*

*Special Education (K-12 state certification)*

*Secondary Education — with concentrations in*

*Art Education (K-12 state certification)*  
*Bilingual-Bicultural Education*  
*Career and Technical Education*  
*English Education*  
*Foreign Language Education*  
*Kinesiology Pedagogy (K-12 state certification)*  
*Mathematics Education*  
*Science Education*  
*Social Studies Education*

*MASTER OF ARTS with majors in*

*Counseling with concentrations in*

*Community Counseling*  
*School Counseling*

*Counseling Psychology*

*School and Community Psychology*

*Sports Administration — with concentrations in*

*Interscholastic Athletic Administration*  
*Intercollegiate Athletic Administration*  
*Professional Sports Administration*  
*Commercial Sports Administration*

*Rehabilitation Counseling and Community Inclusion*

*MASTER OF EDUCATION with majors in*

*Art Education — with concentrations in*

*Art Education*  
*Art Therapy*

*Bilingual-Bicultural Education — with concentrations in*

*Bilingual/Bicultural*

*Bilingual/Bicultural/English as a Second Language*

*Career and Technical Education*

*Counseling*

*Early Childhood Education*

*Educational Leadership*

*Educational Psychology*

*Elementary Education — with concentrations in*

*Children's Literature*  
*Early Childhood Education*  
*General Elementary Education*  
*Language Arts and Reading*  
*Mathematics Education*  
*Science Education*

*Social Studies Education*

*English Education (Secondary) — with concentrations in*

*English: Secondary*

*English as a Second Language*

*Evaluation and Research*

*Foreign Language Education (Secondary)*

*— with concentrations in*

*Foreign Language: Secondary*

*Foreign Language: English as a Second Language*

*Health Education*

*Instructional Technology — with concentrations in*

*Instructional Design*  
*Interactive Technologies*  
*K-12 Technology Integration*  
*Performance and Improvement Training*

*Kinesiology — with concentrations in*

*Exercise and Sport Science*  
*Physical Education Pedagogy*  
*Wellness Clinician/Research*

*Mathematics Education*

*Reading*

*Science Education*

*Social Studies Education*

*Special Education — with concentrations in*

*Autism Spectrum Disorders*  
*Cognitive Impairment*  
*Emotional Impairment*  
*Learning Disabilities*

*JOINT MASTER OF EDUCATION in Social Studies Education*

*and MASTER OF ARTS with a major in History*

*POST-BACHELOR'S TEACHING CERTIFICATES*

*with majors and minors in:*

*Elementary Education — with concentrations in:*

*Bilingual-Bicultural Education*  
*Early Childhood Education*  
*General Elementary Education*

*Secondary Education — with concentrations in*

*Bilingual-Bicultural Education*  
*Career and Technical Education*  
*Dance*

*English Education*

*Foreign Language Education*

*Health Education*

*Mathematics Education*

*Science Education*  
*Social Studies Education*  
*Speech*

*K-12 Education — with concentrations in*  
*Art Education K-12*  
*Kinesiology K-12*  
*Music — Instrumental K-12*  
*Music — Vocal K-12*

*EDUCATION SPECIALIST CERTIFICATES with majors in*

*Counseling — with concentrations in*  
*Counseling*  
*Rehabilitation Counseling*  
*Curriculum and Instruction — with concentrations in*  
*Bilingual Education*  
*Career and Technical Education*  
*Early Childhood Education*  
*Elementary Education*  
*English Education*  
*K-12 Curriculum*  
*Mathematics Education*  
*Science Education*  
*Secondary Education*  
*Social Studies Education*  
*General Administration and Supervision*  
*Instructional Technology — with concentrations in*  
*Instructional Design*  
*Interactive Technologies*  
*K-12 Technology Integration*  
*Performance and Improvement Training*  
*Reading*  
*Special Education*

*CERTIFICATE PROGRAMS*

*GRADUATE CERTIFICATE in Advanced Studies in School*  
*Psychology*

*GRADUATE CERTIFICATE in College and University Teaching*

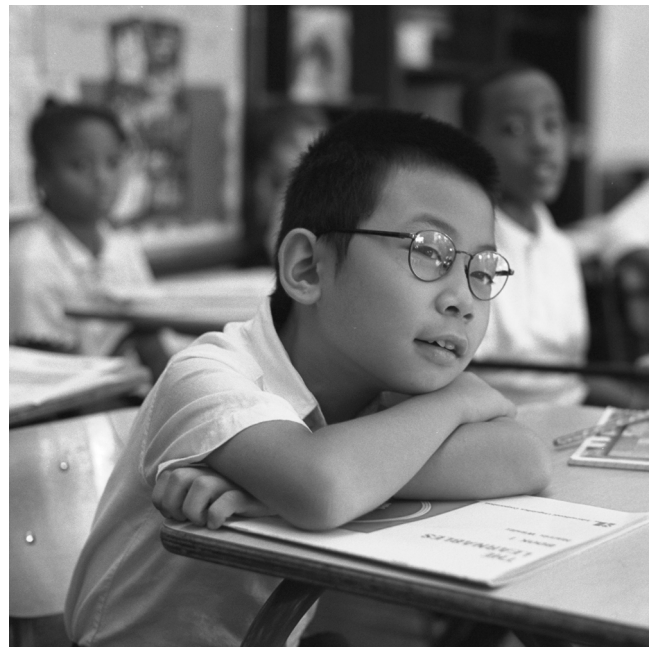
*GRADUATE CERTIFICATE in Online Teaching*

*BRIDGE GRADUATE CERTIFICATE IN*

*Adapted Online Teaching*  
*Autism Spectrum Disorders*  
*Bilingual Education*  
*Career and Technical Education*  
*Coaching*  
*Cognitive Impairment*  
*Early Childhood General and Special Education*  
*Educational Technology*  
*Elementary Education*  
*Elementary Physical Education*  
*Emotional Impairment*  
*English as a Second Language*  
*Health Education*  
*Learning Disabilities Reading Specialist, K-12*  
*Online Teaching*  
*Secondary Physical Education*  
*Visual Arts Education Specialist*

*DOCTOR OF EDUCATION and DOCTOR OF PHILOSOPHY*  
*with majors in*

*Counseling*  
*Curriculum and Instruction — with concentrations in*  
*Art Education*  
*Bilingual-Bicultural Education (Ed.D. only)*  
*Career and Technical Education*  
*Early Childhood Education*  
*Elementary Education*  
*English Education — Secondary*  
*Foreign Language Education — Secondary*  
*K-12 Curriculum (General)*  
*Mathematics Education*  
*Science Education*  
*Secondary Education*  
*Social Studies Education — Secondary*  
*Educational Leadership and Policy Studies*  
*Educational Psychology (Ph.D. only) — with concentrations in*  
*Learning and Instruction Sciences*  
*School Psychology*  
*Evaluation and Research*  
*Instructional Technology — with concentrations in*  
*Instructional Design*  
*Interactive Technologies*  
*K-12 Technology Integration*  
*Performance and Improvement Training*  
*Kinesiology (Ph.D. only) — with concentrations in*  
*Exercise and Sport Science*  
*Physical Education Pedagogy*  
*Reading, Language and Literature (Ed.D. only)*  
*Special Education*



# Academic Regulations

For complete information regarding graduate academic rules and regulations of the University, students should consult the General Information section of this bulletin, beginning on page 6. The following additions and amendments pertain to the College of Education.

## Master of Arts Degrees

The Master of Arts degrees offered by the College of Education are administered by the Division of Kinesiology, Health and Sport Studies, and by the Division of Theoretical and Behavioral Foundations. The generic degree requirements and specific requirements associated with individual majors and areas of concentration are described in the divisional sections; see pages 99-149.

## Master of Arts in Teaching

The Master of Arts in Teaching degree is administered by the Division of Teacher Education. Both generic degree requirements and specific requirements associated with individual majors and areas of concentration are described in that section; see pages 116-132.

## Master of Education

The Master of Education degree is offered in various curricular areas administered by each of the College's academic divisions: Administrative and Organizational Studies; Kinesiology, Health and Sport Studies; Teacher Education; and Theoretical and Behavioral Foundations. Specific requirements associated with individual majors and areas of concentration are presented in the Divisional sections (see pages 99-149); generic degree requirements applicable to all Divisions are as follows:

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must satisfy the following criteria:

In general, eligibility for a state provisional teaching certificate is essential for admission. Additional prerequisites include a satisfactory background in the area of specialization and the completion of general undergraduate academic requirements appropriate to the degree for which admission is sought. A personal interview in the chosen major may be required.

**DEGREE REQUIREMENTS:** The minimum requirement for a Master of Education degree is thirty credits, at least twenty-four of which must be taken at the University. Many programs in the College of Education require more than the minimum, in which case those requirements take precedence. The Master of Education is offered under the following options:

**Plan A:** A minimum of twenty-two credits in course work, plus eight credits for the terminal seminar and thesis.

**Plan B:** A minimum of twenty-seven credits in course work, plus three credits for the terminal seminar and essay or project

**Plan C:** A total of thirty credits. The essay/project or thesis is not required.

The course work for the Master of Education degree is divided into three areas: major requirements, general professional core courses, and electives.

**Major Requirements** consist of a minimum of eight credits in the specialization selected by the student in addition to and when required the terminal seminar and thesis, essay, or project. Specific course requirements for the various majors are presented in the Divisional sections, pages 99-149.

**General Professional Core** consists of credits selected from educational foundation courses. The student must complete one two-credit course from each of three areas chosen from those listed below.

Courses within a student's major area cannot be used to satisfy this requirement.

Counseling: CED 6700  
Educational Administration: EDA 7600  
Educational Psychology: (may select only one of the following)  
EDP 5450, or 5480, or 7350  
Educational Sociology: EDS 7630  
Evaluation and Research: EER 7610  
History and Philosophy of Education: EHP 7600  
Special Education: SED 7050

**Electives** are those courses recommended outside the major and general professional sequences. A minimum of six credits is recommended in this area. The purpose of elective courses is to provide breadth to the student's program.

See the individual programs in the following Divisional sections of this bulletin for specific courses required by certain program areas in the major, the general professional sequence, or the elective sections of *Plans of Work*.

**Plan of Work:** After consultation with the advisor, the master's applicant prepares a Plan of Work for the program, setting forth the courses that will satisfy the requirements for the degree.

**Candidacy:** This status is established upon completion by the master's applicant of nine credits toward degree requirements, and after filing an approved Plan of Work with the College Graduate Office, 489 Education Building. The Plan of Work MUST be filed prior to or during the term in which the applicant completes twelve graduate credits toward the degree. Failure to file a Plan of Work will preclude further registration for courses.

**Time Limitations:** Requirements for the Master of Education must be completed within six years after completion of the first course to be applied toward the degree.

## Post-Bachelor's Teaching Certificate

This program provides a means of obtaining teacher certification for those who do not intend to pursue the master's degree in education or the Master of Arts in Teaching. The program incorporates classroom theory with practice, requires a minimum of four semesters to complete and is available at both the elementary and secondary levels. Courses are offered during the day. Admission requires a baccalaureate degree with an appropriate teaching major and minor earned at a regionally accredited institution. Undergraduate course work should reflect a minimal 2.5 g.p.a., the student must successfully complete the State Basic Skills Test, provide a current Michigan State Police criminal background check, provide documentation of a current TB test, a verification of group work with children and, for Foreign Language majors/minors and Bilingual/Bicultural Education minors, appropriate language proficiency testing. For a complete statement of curriculum requirements, see page 121.

## Education Specialist Certificate

The Education Specialist Certificate program is a thirty credit minimum curriculum beyond the master's degree. It is a self-contained concentration, separate from other existing programs, with a distinct form of recognition at its completion. This is a planned program, not merely recognition for thirty credits of graduate study accrued beyond the master's degree.

The Education Specialist Certificate is offered in various curricular areas administered by the following academic divisions: Administrative and Organizational Studies, Teacher Education, and Theoretical and Behavioral Foundations. Specific requirements associated with individual majors and areas of concentration are presented in the Divisional sections (see pages 99-149); generic certificate requirements applicable to all Divisions are cited below:

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Minimum entrance requirements established by the College of Education are:

- a) A master's degree from an accredited institution.
- b) In general, applicants must present a grade point average of 2.6 or above for upper division undergraduate work. Applicants with an undergraduate grade point average below 2.6 must have a grade point average of 3.4 or above on their master's degree work.
- c) Fulfillment of the special requirements of the area of concentration in which the student wishes to work.
- d) All major areas with the exception of instructional technology and counseling require a minimum of three years of teaching experience or equivalent.

Students who have not been previously admitted to the Graduate School file the *Application for Graduate Admission* online at <http://gradadmissions.wayne.edu/apply.php>.

Students who hold master's degrees from Wayne State University file *Change of Graduate Status* applications in 489 Education Building. An application fee is not required from these students.

Forms and directions regarding fulfillment of the other College and/or departmental requirements will be forwarded to the student on receipt of the application and transcripts by the Education Graduate Office. When these requirements have been satisfied, the applicant may be invited to meet with a committee from his/her chosen area of concentration. Following the interview, the student will be notified of the admission decision by the Education Graduate Office.

#### **CERTIFICATE REQUIREMENTS**

The Education Specialist Certificate program requires a minimum of thirty credits beyond the master's degree. The purpose of the Certificate program is to strengthen the liberal education of teachers and administrators and to contribute to more effective productivity of professional workers in the field of education. The specific content of each major is dependent upon the individual student's needs and interests.

**Plans of Work** are adapted to the professional needs of students and each one is developed by the individual student with the help of his/her advisor. A Plan of Work must be approved by the advisor and filed with the Education Graduate Office, 489 Education Building, before six credits have been completed following acceptance into the program. Failure to file a Plan of Work at the appropriate time may preclude further registration for courses.

Research studies, projects, or field studies may be accepted in partial fulfillment of requirements for the Certificate. Such projects will be in the nature of culminating experiences and arranged with the individual student's advisor.

**Time Limitations:** Requirements for the Education Specialist Certificate must be completed within six years after admission to the program. Credit earned beyond the master's degree which is over six years old *at the time of admission* may not be applied toward meeting requirements of the certificate. Credit earned after acceptance as a certificate applicant may not be over six years old at the time the certificate is granted.

**Transfer Credits:** A maximum of ten semester credits of graduate post-master's degree work earned at another accredited university, or at Wayne State University *prior* to admission to the Education Specialist program, may be applied to the certificate provided the courses are approved by the advisor and the College Graduate Officer as appropriate to the program plan.

A maximum of six semester credits of graduate post-master's degree work earned at another accredited university after admission to the Education Specialist program may be transferred and applied to the program provided no prior transfer credit from another university has been included in the program. Course work used toward a previously

received degree or Education Specialist certificate cannot be used toward the current Education Specialist certificate.

## **DOCTORAL DEGREES**

The doctoral programs of the College of Education at Wayne State are designed to afford opportunity for advanced study and research to persons who have demonstrated: 1) superior scholarship; 2) leadership in education; 3) promise in the field of research; and 4) potential for professional leadership.

Advanced graduate degrees are conferred not merely upon the completion of a prescribed number of courses, nor necessarily after a given period of residence; but, rather, in recognition of outstanding ability and high attainment in course work, examinations, research, scholarly writing, and personal fitness for education as a profession.

The Ed.D. degree is typically more application oriented; the Ph.D. degree more research oriented. Ed.D. study includes development of specialized practitioner skills; application of other educational foundations and techniques to a field; or applied research which primarily addresses localized practitioner problems. Ph.D. study includes theoretical foundations in the field; application of foundational or related disciplines; or research directed toward theory-building.

Doctoral degree programs are administered by the following academic divisions of the College: Administrative and Organizational Studies, Kinesiology, Health and Sport Studies, Teacher Education, and Theoretical and Behavioral Foundations. Specific requirements associated with individual majors and areas of concentration can be found in the Divisional sections of this Bulletin beginning on page 99; generic degree requirements applicable to all Divisions are stated below.

### **Admission to Graduate Programs**

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to doctoral programs in the College of Education are expected to meet the following minimal criteria:

1. Undergraduate grade point average of 3.0. Applicants with grade point averages of less than 3.0 for the baccalaureate degree must present a grade point average of 3.5 or above in their master's degree work before being considered for acceptance as doctoral applicants. Some fields of concentration require a higher g.p.a.
2. Most programs require a master's degree from an accredited graduate school.
3. Some fields of concentration require a minimum of three years teaching experience or equivalent.
4. Successful completion of a written examination evaluated on writing ability and when deemed appropriate by the program area, knowledge of the field.
5. Recommendation for admission from an interview committee.
6. Some fields of concentration require additional testing.

**Application:** Students who have not been formally admitted to the Graduate School file initial applications online at <http://gradadmissions.wayne.edu/apply.php>. Students who hold master's degrees from Wayne State University file doctoral *Change of Graduate Status* applications in 489 Education Building.

Official transcripts of all college-level work, undergraduate and graduate, are to be mailed to the appropriate University office by the institution where the work was completed. Forms and directions detailing prescribed college admission requirements including required College and Departmental writing tests, and personal interview information, will be forwarded by the Academic Services Office, 489 Education Building, after receipt and review of doctoral applications. When all transcripts, test results, recommendations and other credentials, including the autobiographical statement, have been

received and prerequisites satisfied, the applicant will be invited to meet with a committee from his/her chosen area of concentration. Following the interview, the student will be notified of the admission decision by the College graduate officer in the Education graduate office.

## Doctor of Education Requirements

**Credit Requirements:** The minimum credit requirement for the Ed.D. degree is 100 credits in graduate work beyond the baccalaureate degree. All course work must be completed in accordance with the academic requirements of the College and the Graduate School; see the sections beginning on pages 32 and 94, respectively.

**Residence:** At least one full year of course work, i.e., thirty credits of course work beyond the master's degree, must be taken in residence at Wayne State University. This may include work in research techniques, but *does not include dissertation research credit*.

The Ed.D. program requires the completion of six graduate credits in regular course work in each of two successive semesters after admission as an Ed.D. applicant. The residence requirement must be completed following admission to the Ed.D. program.

All degree requirements must be completed within seven years from the time of admission as a doctoral applicant.

**Doctoral Seminars:** Students must elect two doctoral seminars from an area outside the field of concentration from the following foundation areas: educational administration, educational psychology, educational sociology, history and philosophy of education, and curriculum and instruction. These seminars are open only to doctoral students.

**Research Methods:** A minimum of eleven credits (depending on major area) is required in course work, approved by the College's Doctoral Academic Standards Committee, aimed at developing competence in statistics and research methodologies. At least six credits of the minimum requirement will consist of a comprehensive course in evaluation and statistics and an advanced course in research methodology and experimental designs. The remaining five credits will include research electives appropriate to the needs of the student, department research seminars, internships in research, or any combination thereof.

**Concentrations:** A minimum of thirty credits is required in the student's area of concentration. The courses constituting the major will be specified by the department in which the student selects the concentration. Course work in the field of concentration is not restricted to courses offered by the College of Education.

**Cognates:** A cognate in professional education or in a single field consisting of a minimum of twelve credits, is required. Courses included in the cognate will be selected by the student and advisor in conjunction with the cognate field committee member.

**Dissertations:** The doctoral student is required to submit a dissertation on a topic satisfactory to the doctoral committee. Twenty credits are required in dissertation research (ED 9989).

**Electives** may be chosen from the foundations of education, non-dissertation research techniques, or any course work the applicant and advisor consider appropriate to the student's individual program.

**A Plan of Work** must be filed and approved by the advisor and graduate officer during the semester in which the student is completing eighteen credits of work under advisement. Failure to file a Plan of Work may preclude further registration.

**Final written and oral examinations** in the major field of concentration and the cognate in professional education or a subject field will be required. The exact time of these examinations are determined by the Doctoral Academic Standards Committee. Students will register for the examinations with advisor approval. The Qualifying Examination Committee will consist of a minimum of three members: the advisor, one member representing the area of the concentration, and one

member representing the area of the cognate. When performance on a final examination is unsatisfactory, the student may request a re-examination which must be taken within one year of the date of the examination and after one semester has elapsed since the examination. The second examination shall be considered final.

**A final oral examination** on the dissertation is conducted by the student's doctoral committee under the auspices of the Education Graduate Office.

**Selection of Advisor and Dissertation Advisory Committee:** Students will be assigned an advisor at the time of admission. The advisor acts as the chairperson of the student's doctoral committee, which will consist of a minimum of three members: the advisor, one member representing the area of the concentration, and one member outside of the concentration area. The committee must be fully constituted not later than the time the student begins active work on dissertation research or project. The main function of the doctoral committee is to advise the student in research activities and to administer the final defense. The dissertation committee chair assumes the responsibility for overseeing the procedures of the dissertation defense, serving as the advocate for the student and resolving conflicts.

## Doctor of Philosophy Requirements

The Doctor of Philosophy embraces the same fields of concentration as the Doctor of Education, except that the Ph.D. degree is not available in the areas of Reading, Language and Literature; and Curriculum and Instruction: Bilingual-Bicultural Education, but is available in Educational Psychology and Kinesiology.

Of the minimum one hundred credits required beyond the bachelor's degree, a minimum of twenty credits in course work must be completed in the major field, including at least twenty-four credits of graduate work in Education. Thirty credits in dissertation research are required in the Ph.D. program. The thirty credit dissertation registration requirement is fulfilled by registering for the courses ED 9991, ED 9992, ED 9993, and ED 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The remaining credits will be assigned to research or course work in accordance with the needs of the students and the requirements in the field of concentration. At least one cognate is required consisting of ten credits in a field inside or outside the College of Education. Fifteen credits in research technique courses approved by the College's Doctoral Academic Standards Committee are required.

**A Plan of Work**, qualifying examinations, and a Final Public Lecture-Presentation are required. Satisfactory completion of the full-time residency requirement must be certified by the advisor and the College graduate officer. Ph.D. applicants should consult the procedures of the Graduate School beginning on page 18 for additional information. Also, please consult the College of Education *Doctoral Policies and Procedures* bulletin, available in Room 489, Education Building, for further specific Ph.D. requirements.

## FINANCIAL AID

For general sources of graduate financial aid, see the section on Graduate Financial Assistance beginning on page 26. See also individual departmental sections.

Over 100 scholarships established by private donors are available through the College of Education. A number of them are targeted toward graduate students, all require a cumulative g.p.a. of at least 3.0, and all are awarded to applicants who demonstrate high academic achievement and leadership potential in the field of education. Most, though not all, are also based on financial need. Application materials are available online at <http://www.coe.wayne.edu/scholarships/> in late September prior to the following academic year and the application deadline is early to mid-November.



Below is a representative sample of scholarships currently available through the College of Education:

**C.C. Barnes Memorial Scholarship:** Up to five years paid membership in the National Association of Teachers (NAT) — Council for Social Studies, open to any student majoring in social studies education.

**Augustus Calloway Scholarship:** An award of \$500 open to full-time undergraduates and full- or part-time graduate students (Master's level in fields of education) who demonstrate financial need. Minority students are encouraged to apply.

**College of Education Memorial Scholarship:** An award of \$500 open to full-time undergraduate and part- or full-time graduate students enrolled in a master's-level program in the College. Students must demonstrate financial need and maintain at least a 3.5 g.p.a.

**Dean's Scholarship Award:** An award of \$500 open to full-time or part-time undergraduate or graduate students who exhibit an interest in urban education. Graduate students must have a minimum 3.75 g.p.a.

**Faculty Leadership Award:** An award of \$500 in honor of a College faculty member, limited to full- and part-time undergraduate and graduate students who show evidence of leadership and potential for becoming outstanding educators, and have a strong commitment to the field of education. Graduate students must have a minimum 3.75 g.p.a.

**Kinesiology, Health and Sport Studies Scholarship:** Award of \$500 offered to a full- or part-time undergraduate or graduate student in kinesiology, Health and Sport Studies, who plans to work in an urban setting, has earned at least twelve credits in professional course work, and has a minimum 3.5 g.p.a. Minority students are encouraged to apply.

**Mary Jane Kruse Scholarship:** An award of \$500 offered to full- or part-time mature students, continuing their education in the College, on the basis of scholastic achievement, desirable qualities of character and leadership, and financial need.

**Sally Patterson Memorial Scholarship:** An award of \$500 open to any physically-handicapped undergraduate or graduate student demonstrating financial need.

**Phi Delta Kappa Scholarship:** An award of \$500 offered to full-time undergraduate and full- or part-time graduate students in a M.A.T. or M.Ed. program, who demonstrate financial need.

## Normal Program Load

*A full-time graduate student load is eight credits per semester in Fall and Winter and is limited without exception to a sixteen credit maximum by the Graduate School. In Spring/Summer full-time is two credits.* If a significant portion of a student's time is spent in outside work, corresponding adjustments must be made in the college schedule. A graduate student working full-time who desires to carry more than eight credits must secure permission from the Assistant Dean for Academic Services, who serves as Graduate Officer.

## Attendance

Regularity in attendance and performance is necessary for success in college work. Although there are no officially excused absences as defined by College policy, 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.

## Probation and Withdrawal

If, at any time, a graduate student's scholastic grade point average falls below 3.0, the student is automatically placed on probation. A student on probation must secure the approval of the Assistant Dean for Academic Services before registering for subsequent work in the College. The College reserves the right to ask a student to withdraw at any time from specific courses or from the College entirely, if progress does not warrant continuance.

## Readmission

Graduate students who are returning to work on graduate programs following an interruption in residence of three years or more should report to the Central Records Office, 5057 Woodward, Room 5101, in order to reactivate their status before attempting to register.

Graduate students who have received a master's degree from Wayne State University and have not registered since the degree was conferred, and who desire to pursue further non-degree graduate work in the College of Education, must contact the Central Records Office at (313) 577-3531 to request a Post-Master's status.

## Revalidation of Credit — Master's Degree

Upon recommendation of the advisor and approval of the graduate officer, a master's degree student may revalidate over-age credits which are between six and ten years old, and that represent courses completed at Wayne State University with grades of 'B' or better. *Students are not permitted to revalidate credits earned at other institutions.* The advisor and student must set a terminal date for completion of all degree requirements, including such additional requirements as may be indicated by the graduate officer to revalidate over-age credits.

## Educator Criminal History Review

PUBLIC ACT 68 of 1993 Sec. 1230: This act requires public and non-public 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. Criminal history checks may be required at various stages from admission to certification/graduation in some programs. A Judgment of Sentence for any conviction must be on file with any student's application for the College of Education to recommend that student for certification to the Michigan Department of Education. This document may be obtained from the court where the matter was adjudicated. In addition, a narrative describing the circumstances surrounding the conviction or action from the student's perspective must be on file. Anyone convicted of an offense will not receive a ninety-Day Certification Letter as mandated by the Michigan Department of Education. The State Board of Education may refuse to grant a certificate or approval to an applicant pursuant to the following State Board of Education Teacher Certificate Code:

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.

Additional criminal history checks may be required at the discretion of the College. A criminal history check, by name, without fingerprints may be accessed for a fee at <http://apps.michigan.gov/ICHAT/>

## Graduation

Applications for graduate degrees, graduate certificates and the Education Specialist Certificate must be made not later than the fourth week of classes for the semester in which degree or certificate requirements are to be completed. Graduation deadline dates for the semester in which candidates are completing doctoral degree requirements are issued on receipt of the application by the Graduate Education Office.

Information concerning commencement announcements, caps and gowns, invitations, tickets, time and place, and other relevant items will be mailed to graduates prior to the event. Candidates for doctoral degrees are requested and expected to attend the commencement at which the University confers upon them the degree earned. Students earning an Education Specialist Certificate will not participate in the Commencement Ceremony. The Commencement Ceremony is limited to the awarding of degrees.

## DIRECTORY OF THE COLLEGE

### *Dean of the College of Education:*

Carolyn M. Shields : Room 441, Education Building; 313-577-1620

### *Interim Associate Dean, Research:*

Sharon Field: Room 441, Education Building; 313-577-1620

### *Assistant Dean, Academic Services:*

Janice Green: Room 489, Education Building; 313-577-1605

### *Interim Assistant Deans, Administrative and Organizational Studies:*

Alan Hoffman and Stephen Hillman: Room 341, Education Building; 313-577-1721

### *Assistant Dean, Kinesiology, Health, and Sport Studies:*

Mariane Fahlman and Nate McCaughtry: Room 261, Matthaei Building; 313-577-6210

### *Assistant Dean, Teacher Education:*

Alan Hoffman and Stephen Hillman: Room 241, Education Building; 313-577-1721

### *Interim Assistant Dean, Theoretical and Behavioral Foundations:*

R. Craig Roney: Room 341, Education Building; 313-577-0902

### *Assistant to the Dean:*

Cam Liebold: Room 441, Education Building; 313-577-3284

*Website:* <http://www.coe.wayne.edu/>

# Academic Services

*Office:* 469 Education; 313-577-1601

*Assistant Dean:* Janice Green

*Graduate Advising:* Paul Johnson, Cynthia Ward, Kevin Williams

*Undergraduate Advising:* Fawne Allossery, Janet Andrews, Ebony Green, Cassandra Tackett

*General Advising:* Sherry Cormier-Khun (Macomb University Center), LaSondra Dawn (Undergraduate & Graduate)

*Office of Field Experiences:* Sharon Sellers-Clark

*Website:* <http://coe.wayne.edu/as/>

## Purposes

The Academic Services Division is responsible for admitting undergraduate and graduate students to programs of the College of Education. The Division is also responsible for the Office of Field Experiences (pre- and directed student teaching), maintaining student files, and processing and certifying graduation. In addition, the Division provides a placement service for graduates seeking employment in the field of K-12 teaching.

The Division provides information and advice concerning programs, admission procedures, administrative and teaching certificates, and general University policy. Other services provided include preparation of the *Schedule of Classes*, and evaluation of transcripts. The unit also maintains curriculum guides and community college equivalency tables, approves official Plans of Work, and monitors the College probation system.

## Off-Campus Centers

The College offers graduate course work in off-campus centers throughout the Detroit metropolitan area. Courses scheduled at these centers provide residence credit and are comparable to the offerings on the main campus.

## Alumni Association

The College of Education Alumni Association (formerly Detroit Teachers College Alumni Association) was organized in 1893 in connection with the Detroit Normal Training School. In the years since its origin, its membership has continually increased.

The aims of the Association, as set forth in its constitution, are 1) to foster a spirit of loyalty to the College, 2) to raise the standards of the teaching profession, 3) to assist professionally and financially those who need help, 4) to keep alive the spirit of real fellowship, and 5) to encourage worthwhile contacts between the student body and the Alumni Association. In addition to being supportive of the University and meeting the needs of the membership through appropriate programs, the Association, in recent years, has addressed itself to ways in which it can be of service to the broader community, recognizing that only through this commitment can it be a viable force in an urban university setting.

The Alumni Association has been generous in its gifts to the College. A gift provided complete furnishings for two rooms in the College of Education building—the Dean's Conference Room and the Faculty Lounge. The Alumni Association provides scholarships for deserving students, sponsors the Golden/Silver Anniversary Tea in honor of twenty-five and fifty year graduates of the College, joins with the faculty and administration of the College in annual Alumni awards, honors both alumni and faculty with awards and recognition, and supports the work of the Dean in carrying forward many activities of mutual interest and concern.

In becoming active members of the Association, the graduates of the College have ample opportunity to uphold and develop the best movements and ideals set forth by educational leaders and to lead in professional friendliness among all teachers.



# Administrative and Organizational Studies

Office: 341 Education Building; 313-577-1728

Interim Assistant Dean: Alan Hoffman

Website: <http://www.coe.wayne.edu/aos>

## *Professors*

Michael F. Addonizio, Sharon Field Hoffman (Clinical), Rita C. Richey (Emerita), William Sosnowsky (Emeritus)

## *Associate Professors*

Ingrid J. Guerra-Lopez, Silverenia Kanoyton (Research), Thomas McLennan (Research), James L. Moseley, Monica W. Tracey, Ke Zhang

## *Assistant Professors*

Michael K. Barbour, William E. Hill (Clinical), Michael A. Owens, Ben M. Pogodzinski

## *Senior Lecturer*

Timothy W. Spannaus

## Graduate Degrees

*MASTER OF EDUCATION with majors in Educational Leadership and Instructional Technology*

*EDUCATION SPECIALIST CERTIFICATE Programs with majors in General Administration and Supervision, and a concentration in Charter School Administration; and Instructional Technology*

*GRADUATE CERTIFICATE in College and University Teaching*

*GRADUATE CERTIFICATE in Online Teaching*

*BRIDGE GRADUATE CERTIFICATE IN Educational Technology, and Online Teaching*

*DOCTOR OF EDUCATION with majors in Educational Leadership and Policy Studies, and Instructional Technology*

*DOCTOR OF PHILOSOPHY with majors in Educational Leadership and Policy Studies, and Instructional Technology, and concentration in Higher Education Administration*

The Division of Administrative and Organizational Studies has as its primary goal the development and enhancement of leadership and technology in educational systems, organizations, and institutions. It is within the scope of this division to study emergent trends and educational innovations; to develop rationales for supporting educational change; and 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. Program areas, Educational Leadership and Policy Studies, and Instructional Technology, are under the guidance of this Division. Applicants are advised to obtain program materials from the Division and discuss them with an advisor prior to making application.

## EDUCATIONAL LEADERSHIP and POLICY STUDIES

In this area the College offers the Master of Education in Educational Leadership, and doctoral degrees with a major in Educational Leadership and Policy Studies, as well as an educational specialist certificate program in General Administration and Supervision. The master's degree is a basic, entry-level program in this discipline designed to assist educators in improving their competence in leadership roles in schools and the community. The master's program in Educational Leadership is approved by the Michigan Department of Education.

Individuals aspiring to positions such as building administrators, central office administrators, special education directors, higher education administrators, or other educational policy making positions in business, industry or government should undertake study at the specialist and doctoral levels in educational leadership and policy studies. At the specialist level individuals may seek an emphasis in elementary administration, secondary administration, special education administration, or the superintendency. The College offers certification programs in all areas of administration approved by the Michigan State Board of Education. In the doctoral programs individuals may emphasize educational foundations, general educational administration, or special education administration.

The doctoral program in Educational Leadership and Policy Studies is approved by the University Council for Educational Administration (UCEA).

### Master of Education with a Major in Educational Leadership

**Admission:** see page 94.

**DEGREE REQUIREMENTS:** General requirements for the Master of Education degree may be found on page 94. This major in educational leadership is offered only as *Plan B or C* options as defined on page 94; specific requirements are as follows:

The required forty-three credits must include EDA 7620, 7660, 7670, 7675, 7690, 8650, 8990, I T 6135, ED 7999, and one course selected from: EDA 7640 or 7650.

EDA 7600, EDP 7350 and EER 7610 are required as part of the six-credit general professional (core) area.

Students interested in emphasizing special education administration at the master's level should consult with the advisor in that area to select courses.

### Education Specialist Certificate with a Major in General Administration and Supervision

**Admission:** see page 94.

**CERTIFICATE REQUIREMENTS:** Thirty-four to forty-three credits are required for this certificate predicated on the admission status of the applicant as cited below under curricular options A-D. Basic requirements are shown on page 94. Since this program is specifically designed to strengthen the individual background of teachers and administrators, all *Plans of Work* are developed in consultation with the appropriate advisor. This program is offered with a concentration in charter school administration. (I T 6135 cited in the following options is required only if not taken previously.)

*Option A:* Applicants with a Master's Degree in EDA (thirty-four credits): EDA 8620, 8630, 8990; EPS 8880, 9600; ED 7998; I T 6135; and electives: four credits.

*Option B:* Applicants with Master's Degree other than in EDA (forty-three credits): EDA 7620, 7640 or 7650, 7660, 7670, 7675, 7690, 8630, 8650, 8990; ED 7998; and I T 6135.

*Option C:* Special Education Administration (forty-three credits): EDA 7670, 7675, 7690, 7800, 7810, 7820, 7830, 8620, 8650; and I T 6135.

*Option D:* Charter School Administration (thirty-nine credits): EDA 7635, 7640 or 7650, 7685, 7690, 8611, 8630, 8650, 8990; ED 7998; and I T 6135.

## Doctoral Degrees with a Major in Educational Leadership and Policy Studies

**Admission:** see page 95.

Both the Doctor of Education program and the Doctor of Philosophy program in Educational Leadership and Policy Studies require satisfactory completion of a Departmental written examination and the Miller Analogies Test. If students have taken the Graduate Record Examination (GRE), those scores may be accepted in lieu of the Miller Analogies test if the GRE was taken not more than three years prior to submission of application.

The Doctor of Education program is primarily for practicing educational administrators and as such requires demonstrative leadership experience with adults as a prerequisite for admission. This program is offered with a concentration in higher education administration.

The Doctor of Philosophy program requires evidence of past research efforts and interests as a prerequisite for admission. Applicants for this degree should be interested in careers which include a research emphasis.

**Degree Requirements:** The general requirements for the degrees are stated under Doctor of Education (Ed.D.) Requirements on page 96. In addition, all students must complete at least a sixteen-credit sequence in the major. Specific requirements for the major are determined in consultation with the assigned advisor. A minimum six credits is required in doctoral seminars for non-majors. The research courses required are: EER 7630, EER 7650, and EPS 8180 for both doctoral programs. In addition, the Ed.D. student will take either EER 7870 or 8800. The Ph.D. student will take EER 8800 and either EER 7870 or 8820.

## INSTRUCTIONAL TECHNOLOGY

Each degree, certificate and endorsement program in Instructional Technology is designed to prepare persons for positions in educational institutions, business or industrial organizations, government and the military, and/or health care and other human services agencies. The newest technologies are incorporated into these programs, enabling the graduate to function in the ever-changing roles of this profession, including: instructional designer, developer, or researcher; advanced technology and e-learning specialist; media or learning resources consultant or manager; professor, teacher or curriculum specialist; faculty developer, technology coordinator and performance technologist, trainer, training manager, or consultant. Students can achieve advanced skills in specialty areas such as:

1. Instructional design and evaluation;
2. Performance improvement, training and organizational development;
3. Interactive technologies design and development;
4. e-learning and distance education;
5. Technology integration in the schools;
6. Instructional media design and production;
7. Research and publication in the field; and
8. Other emerging applications of instructional technology.

Further information can be found on the Instructional Technology Webpage at the following address: <http://coe.wayne.edu/aos/it>

## Master of Education with a Major in Instructional Technology

**Admission:** see page 94. The Graduate Record Examination may be required for those students with undergraduate grade point averages between 2.50 and 2.80. Contact the program area for further information.

**DEGREE REQUIREMENTS:** There are four program emphases at the Master's level: 1) Performance Improvement and Training; 2) Interactive Technologies; 3) K-12 Technology Integration; and 4) Instructional Design. Each emphasis is directed toward different career opportunities and requires a minimum of thirty-six credits. General requirements for the Master of Education may be found under Master of Education on page 94. This degree is offered only as a *Plan C* option, as defined under the general requirements section, see page 94. Courses required for the curricular emphases are:

Emphasis 1: I T 6110, 7100 or 8100, 7150, 7110, 7320, 8150, 8320; at least one Performance Improvement and Training elective course, and ED 7999. A technology elective is also recommended for those with limited technology skill or experience.

Emphasis 2: I T 6110, 7100 or 8100, 7140, 7150, two Interactive Technology courses to be selected from I T 7220 or 7230 or 7310 or 7410 or 7510, an Interactive Technology elective, and ED 7999.

Emphasis 3: I T 5110 or 5120, 6110, 6230 or 6140, 7100, 7150, 8140, two K-12 Technology Integration elective courses, and ED 7999.

Emphasis 4: I T 6110, 7100 or 8100, 7110, 7120, 7140, 7150, an I T elective, and ED 7999.

Requirements for the credits in General Professional Core (see page 94) courses vary in terms of the program emphasis.

Students may also earn a Master's Degree with double emphases in either Performance Improvement and Training (Emphasis 1) and Interactive Technologies (Emphasis 2), or K-12 Technology Integration (Emphasis 3) and Interactive Technologies (Emphasis 2). See <http://coe.wayne.edu/aos/it> for the specific requirements of these programs.

**Online Programs:** Each of the four Instructional Technology M.Ed. program emphases is offered online as well as in the traditional classroom-meeting format. For further information on the online programs please Consult <http://coe.wayne.edu/aos/it>

## Education Specialist Certificate with a Major in Instructional Technology

**Admission:** see page 95. Three academic recommendations and a resume are required. Related work experience is expected of students who have no previous course work in instructional technology.

**CERTIFICATE REQUIREMENTS:** A minimum of thirty-six credits is required for this certificate. There are four program emphases: 1) Performance Improvement and Training; 2) Interactive Technologies; 3) K-12 Educational Technology, and 4) Instructional Design. Basic certificate requirements may be found on page 94. Courses required for the curricular emphases are:

Emphasis 1: I T 6110, 7100, 7150, 7320, 8100, 8110, 8150, and 8320; and two Performance Improvement and Training electives. A technology elective is recommended for those with limited technology skill or experience.

Emphasis 2: I T 6110, 7100, 7140, 7150, 8100, 8110; two Interactive Technology courses to be selected from I T 7220 or 7230 or 7310 or 7410 or 7510; and an Interactive Technology elective course.

Emphasis 3: I T 5110 or 5120, 6110, 6230 or 6140, 7100, 7150, 8100, 8110, and 8140; and a minimum of two K-12 Technology Integration elective courses.

Emphasis 4: I T 6110, 7100 or 8100, 7110, 7120, 7140 and 8110; and two electives.

## Educational Technology (Bridge Graduate Certificate)

The Graduate Bridge Certificate in Educational Technology is designed to enhance the credentials of practitioners. For certified teachers, completion of this program leads to the additional endorsement to the Michigan teaching certificate in Educational Technology. Teachers with this certificate are expected to play leadership roles in selecting, planning, developing, implementing and evaluating technology applications in the teaching and learning process.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Instructional Technology if they decide to pursue that degree after completing the Certificate.

Courses taken for this certificate will require students to incorporate technology into lessons, select strategies that promote the use and transfer of technological knowledge and skills for their own students. This program stresses fieldwork by requiring applicants to use Information-age Technology with their own students and to support colleagues' use of technology-based resources.

**Admission Requirements:** see 95. For candidates seeking the Educational Technology endorsement, a valid Michigan teaching certificate is required.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Educational Technology requires a minimum of twenty to twenty-one<sup>21</sup> credits including 17 credits of core courses and three to four elective credits to be chosen from the courses cited below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

### CORE COURSES (17 credits)

- I T 5110 -- Applications of Technology in Education: Cr. 3
- I T 5120 -- Producing Technology-Based Instructional Materials: Cr. 3
- I T 6140 -- Designing Web Applications for the Classroom: Cr. 4
- I T 6230 -- Internet in the K-12 Classroom: Cr. 4
- I T 8140 -- Seminar for Advanced Technology Integration: Cr. 3

### ELECTIVE COURSES (3-4 credits):

- I T 7130 -- Facilitating Online, Face-to-face and Blended Learning: Cr. 3
- I T 7210 -- Foundations of Distance Education: Cr. 4
- I T 7140 -- Web-based Courseware Development: Cr. 4

## Doctoral Degrees with a Major in Instructional Technology

**Admission:** see page 95. Admission to the Ph.D. and Ed.D. programs in instructional technology requires completion of the Verbal, Quantitative and Writing sections of the Graduate Record Examination, four academic letters of recommendation, a statement of research interests, and a resume.

**DEGREE REQUIREMENTS:** The general requirements for these degrees are stated on page 96. Core requirements in the major include I T 6110, 7110, 7150, 7320, 8100, 8110 and 8150. In addition, Ph.D. students are required to complete twenty-four credits in I T professional focus areas; Ed.D. students are required to complete thirty-two credits in I T professional focus area. A minimum of six credits is required in Foundations of Education (Doctoral Seminars). Two courses are to be selected from EHP 9600, EDP 9310, EDS 9620, TED 9130, and EDA 9790. Sixteen credits in research courses are required in this program for both Ph.D. and Ed.D. students. Ph.D students are to elect EER 7630, EER 7870, one of EER 7880, EER

8700, or EER 8800, plus I T 9105 and 9110. Additional coursework is required in a cognate area and in dissertation research requirements.

A minimum of 113 credits are required for a doctoral degree in Instructional Technology. All doctoral committees must include a minimum of two faculty members from Instructional Technology; three I T faculty members are preferred for Ph.D. students.

## Certificate Program in College Teaching

The Graduate Certificate in College and University Teaching is designed to equip doctoral students with insight, skills and experience to excel as classroom instructors and members of the academic community.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. This program is open only to recent graduates of and students currently enrolled in a Wayne State University doctoral or terminal master's program and who plan to seek faculty positions upon completing their degree

**CERTIFICATE REQUIREMENTS:** A minimum of fifteen credits is required for this certificate including:

- I T 6140 -- Designing Web Tools for the Classroom: Cr. 4
- I T 8500 -- Strategies for Teaching in Higher Education: Cr. 4

Additional courses to meet the minimum number of credit hours are selected with advisor approval.

For additional information, please contact: Dr. Timothy Spannaus, Program Director; 313-577-1728, or 313-577-1741.

## Certificate Program in Online Teaching

The Graduate Certificate Program in Online Teaching is designed to prepare students for teaching positions in online or other distance education settings in both the K-12 and higher education environments. The certificate provides students with essential knowledge and skills in pedagogy, course development, evaluation, instruction, and other aspects of the educational process in online learning environments.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

**CERTIFICATE REQUIREMENTS:** A minimum of twelve credits is required for this certificate including:

- I T 7130 -- Facilitation of On-line and Face-to-Face Learning: Cr. 3
- I T 7210 -- Foundations of Distance Education: Cr. 4
- I T 8120 -- Practicum in Instructional Technology: Cr. 1-9

Additional courses to meet the minimum number of credit hours are selected with advisor approval.

For additional information, please contact: Dr. Michael Barbour, Program Director; 313-577-1728, or 313-577-8349.

## Online Teaching (Bridge Graduate Certificate)

The Graduate Bridge Certificate in Online Teaching is designed to prepare graduate students for teaching positions in online or other distance education settings in both the K-12 and higher education environments. The certificate provides students with essential knowledge and skills in pedagogy, course development, evaluation, instruction, and other aspects of the educational process in online learning environments.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Instructional Technology if they decide to pursue that degree after completing the Certificate.

**Admission Requirements:** see page 95.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Online Teaching requires a minimum of eighteen credits including ten credits of core courses and eight elective credits to be chosen from the courses cited below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**CORE COURSES:** (10-16 credits)

- I T 7130 -- Facilitation of Online and Face-To-Face Learning: Cr. 3
- I T 7210 -- Foundations of Distance Education: Cr. 4
- I T 8120 -- Practicum in Instructional Technology: Cr. 1-9

Upon consent of the Certificate Program Director, specific previous online teaching experience may be substituted for the I T 8120 course requirement. Note: this does not mean that credit will be given for practical experiences - only that this particular course requirement may be waived.

**ELECTIVE COURSES:** (2 required; 8 credits)

Select two courses from the following:

- I T 6140 -- Designing Web Tools for the Classroom: Cr. 4
- I T 6230 -- Internet in the Classroom: Cr. 4
- I T 7140 -- Designing Interactive Courseware: Cr. 4
- I T 7220 -- Multimedia for Instruction: Cr. 4
- I T 7230 -- Advanced Multimedia for Instruction: Cr. 4
- I T 7310 -- Learning Management Systems: Cr. 4

## Recommendation for State of Michigan Endorsement in Educational Technology

This program allows currently certified teachers to obtain a recommendation from the College for a State of Michigan Endorsement in Educational Technology. The program can be combined with a Master's Degree or Educational Specialist Certificate with an emphasis in K-12 Technology Integration. Teachers with this endorsement are expected to play a leadership role in selecting, planning, developing, implementing and evaluating technology applications in the P-12 setting. Candidates for this endorsement will complete projects that adhere to both the Michigan technology standards for teachers and the standards for the International Society for Technology in Education.

**Endorsement Requirements:** A minimum of eighteen credits is required for the endorsement, including I T 5110, 5120, 6140, 6230, 8140, and one elective course.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## EDUCATION 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. (T)

**7620 Introduction to Administration. Cr. 4**

Conceptual framework of the administrative process; interrelationships between the person, the job, and the organizational setting; the way formal organizations, and political, social and economic factors influence administrative decision making. (T)

**7635 Introduction to Charter School Leadership. Cr. 4**

Knowledge and skills necessary to education organizational leadership, specifically to develop charter school educational leaders who can create school cultures that are conducive to school learning. (F)

**7640 The Elementary School Principalship. Cr. 4**

Prereq: teaching experience. 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. (W,S)

**7650 Secondary School Administration. Cr. 4**

Prereq: teaching experience. 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. (F,S)

**7660 Administrative Leadership in School-Community Relations and Public Relations. Cr. 4**

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. (T)

**7670 Economic Issues in Education. Cr. 4**

Economic issues in education at the local, intermediate, state, and federal levels. (W,S)

**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. (F,W)

**7685 School Resource Allocation, Organizational Budgeting, and Facilities Management. Cr. 4**

Development of business plans, fiscal accountability, reporting systems, and facilities management. (F)

**7690 Introduction to Michigan School Law. Cr. 4**

Constitutional and legal factors affecting Michigan public education. (T)

**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. (F)

**7810 Michigan Special Education Law. Cr. 4**

Prereq: EDA 7800, or consent of instructor. 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. (W)

**7820 Emergent Policies in Special Education Administration. Cr. 2**

Offered for S and U grades only. Discussion of research and literature relating to changing and emergent policies. (T)

**7830 Practicum in Special Education Administration and Supervision. Cr. 6**

Offered for S and U grades only. Prereq: EDA 7800, 7810, or consent of instructor. 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. (T)

**8611 Charter School Program Design and Evaluation. Cr. 4**

Introduction to decision-making theory and methods of evaluation for charter school administrators. (W)

**8620 School Personnel Administration. Cr. 4**

Analysis of the personnel function in educational administration. (F,S)

**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. (F,W)

**8650 Staff Development and School Improvement. Cr. 2-6 (Max. 6)**

A clinical experience in planning, design, and implementation of in-service and of staff development programs. (T)

**8990 Internship in Administration. Cr. 2-8 (Max. 8)**

Offered for S and U grades only. Supervised experience in administration of public education, government, business, and social agencies. Internship in cooperating school system. Includes seminar. (T)

**9790 Doctoral Seminar in Educational Administration. Cr. 3**

Prereq: admission to a doctoral program in education; for doctoral majors in other areas of concentration. 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. (W)

## EDUCATIONAL LEADERSHIP and POLICY STUDIES (EPS)

**8180 Research Seminar. Cr. 2-6 (Max. 8)**

Prereq: admission to doctoral program. Students develop research proposals, evaluate each other's research designs, and conduct any necessary pilot studies. (I)

**8500 The American College. Cr. 4**

Survey of higher education in the United States today. Examination, through extensive reading, lecture and discussion, of the types of institutions, purposes, programs, organization, governance and control, planning, institutional life, role of faculty and administration, financing, and current trends. (I)

**8530 (EPS 8530) Seminar in the History of Education. (EHP 7670) (HIS 8110) 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. (I)

**8550 Government and Higher Education. Cr. 4**

Examination of the role of government and politics in effecting higher education policy, structure, governance, and finances. Exploration of planning and coordination arrangements, and the function of various governmental agencies. (I)

**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. (I)

**8570 Contemporary Issues in Higher Education. Cr. 4**

Seminar for advanced doctoral students. Intensive exploration of major issues and problems confronting higher education. (I)

**8680 Seminar in Administrative and Organizational Behavior. Cr. 4**

Research and literature related to formal organizations; administrative activity which guides behavior of people in organizations; organizational theory as it relates to group interaction. (I)

**8710 Readings in General Administration. Cr. 4**

Prereq: admission to doctoral program. Directed readings in the principles underlying administration in education, government, business and social agencies and other major areas. (W)

**8880 Workshop in Administrative and Organizational Studies. Cr. 1-10 (Max. 10)**

Offered for S and U grades only. Practicum in the study of current problems affecting administrative and organizational studies. (I)

**9600 Seminar in Research and Theory of Administration. Cr. 3**

Prereq: EDA 7620. 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. (I)

**9610 Seminar in Educational Policy Development. Cr. 4**

Prereq: EPS 9620. 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. (W)

**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. (F)

## INSTRUCTIONAL TECHNOLOGY (I T)

**5110 (I T 5110) Technology Applications in Education and Training. (LIS 6360) Cr. 3**

Prereq: admission to College of Education. Technological applications to education, training, and instruction within educational, industrial, and human services settings. Students examine, develop, and/or evaluate unique instructional programs. For educators and non-educators interested in exploring technological applications in education. (F,W)

**5120 (I T 5120) Producing Technology-Based Instructional Materials. (LIS 6370) Cr. 2-3**

Prereq: admission to College of Education. Design and development of instructional media and materials for use in educational, industrial, and/or human services programs; development of computer-generated instructional materials. Also offered online. (F,S)

**6110 (I T 6110) Foundations of Instructional Systems Design. (LIS 6350) Cr. 4**

Alternative systems models of instructional design; basic design principles, methods and techniques of pre-design analysis; instructional strategy selection and sequencing. Also offered online. (T)

**6135 Technology Applications in School Administration. Cr. 3**

Use of technology tools by school administrators; factors related to leadership and research in technology integration. Also offered online. (F,S)

**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. (F,S)

**6230 Internet in the Classroom. Cr. 4**

Prereq: I T 6140. 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. (W,S)

**7060 Developing Instructional Video for Education and Training. Cr. 4**

Video scriptwriting and production combined to provide broad preparation for developing video programs. (I)

**7100 Introductory Graduate Seminar in Instructional Technology. Cr. 2**

Introduction to the field of instructional technology: careers, job roles, organizations, scholarly literature, requisite technology skills; introduction to course content and initial planning for student's programs. (T)

**7110 (I T 7110) Advanced Instructional Design Tools and Techniques. (LIS 7350) Cr. 4**

Prereq: I T 6110. Exploration and application of those techniques, tools and competencies characteristic of expert designers. Topics include: use of design software, program design, advanced analysis techniques, motivation design, rapid prototyping, reducing design cycle time, designing instruction for diverse learner populations. (W)

**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. (B)

**7120 Project Management. Cr. 4**

Principles and techniques of project management. Topics include: tools used to manage instructional projects, components of management plans, software used to create management plans. Also offered online. (B)

**7130 Facilitation of On-Line and Face-to-Face Learning. Cr. 3**

Planning, presenting, and facilitating learning in blended, on-line, and face-to-face contexts. Topics include: leading discussions, creating and using formal and informal assessments of learning, use of course management system features and functions. (B)

**7140 (I T 7140) Web-Based Courseware Development. (COM 8570) Cr. 4**

Prereq: I T 6110; Windows and web literacy, or consent of instructor. 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. (F,S)



**7150 Educational Product and Program Evaluation. Cr. 4**

Prereq: I T 6110. Techniques and criteria for evaluation of commercial products; models of instructional evaluation; methods of large-scale curriculum evaluation; summary evaluation; formative evaluation for review of instructional design. Also offered online. (F,W)

**7180 Message Design and Display. Cr. 4**

Analysis of principles of message design, foundational research, application in publication of print and electronic materials. Techniques of preparing instructional, informational, and marketing messages using alternative layouts and graphics. Laboratory work using advanced computer configurations. Also offered online. (B)

**7210 Foundations of Distance Education. Cr. 4**

Exploration and demonstration of techniques of designing and delivering instruction and two-way interactive video and audio technologies. Analysis of the theoretical foundations and principles of designing and delivering instruction over distance. Also offered online. (S)

**7220 Multimedia for Instruction. Cr. 4**

Prereq: I T 6110; Windows and web literacy, or consent of instructor. 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. (W)

**7230 Advanced Multimedia for Instruction. Cr. 4**

Prereq: I T 7140 or 7220, or consent of instructor. 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. (F)

**7240 Applications of New Technologies. Cr. 2-12**

Analysis and application of principles of designing instruction and instructional facilities that utilize emerging technologies in a variety of education and training settings. Topics may include: delivering education, training and multimedia on the Internet; technology facilities design. (I)

**7310 Learning Management Systems. Cr. 4**

Prereq: I T 7140 or 7220. 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. (W)

**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 performance interventions of an instructional and non-instructional nature. Also offered online. (S)

**7410 Performance Support Systems. Cr. 4**

Design and implementation of software-based performance systems, such as just-in-time support of performance tasks, systematized and searchable knowledge bases, and rule-based decision support. Topics such as rapid prototyping, user-centric design. (I)

**7420 Knowledge Management and Performance Support Systems. Cr. 4**

Prereq: I T 6110; I T 7140 recommended. Exploration and application of concepts and principles; topics may include organizational learning, learning communities, electronic performance support systems and usability. (I)

**7500 Designing Instruction for Older Adult Learners. Cr. 4**

Examination and synthesis of research about persons 55 and older as they engage in learning events. Literature of psychology, sociology, anthropology, gerontology. (I)

**7510 Simulations for Learning and Performance Improvement. Cr. 4**

Prereq: I T 7140 or I T 7220. Analysis, design and development of simulations for instruction. Topics such as uses and categories of simulations, limitations, theoretical and research bases, modeling tools, and simulation games. (B)

**7920 Strategic Planning for Training and Organization Improvement. Cr. 4**

Prereq: I T 7320. 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. (B)

**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. (F)

**8110 Advanced Instructional Design Theory and Research. Cr. 4**

Prereq: I T 6110. 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. (F)

**8120 Practicum in Instructional Technology. Cr. 1-9 (Max.9)**

Prereq: I T 6110. Offered for S and U grades only. Students design, develop, use, and evaluate instructional systems and subsystems in an educational, business, industrial, or human services setting. (T)

**8130 Individual Projects in Instructional Technology. Cr. 1-6 (Max. 6)**

Prereq: consent of instructor. Students develop instructional technology material packages and devices through individual design and production. (T)

**8140 Seminar in Advanced Technology Integration. Cr. 3**

Prereq: twelve credits in instructional technology coursework or consent of instructor. K-12 curriculum design and planning; reviewing and selecting technology-based tools; integrating technology into lessons to support learning goals and student needs. Development of teacher in-service, grant-writing, and technology plans. Also offered online. (W)

**8150 Needs Assessment. Cr. 3**

Needs assessment models, procedures and approaches. Bases for designing programs, validating programs, and assessing continuing validity of ongoing programs. Students undertake a needs assessment validation study to confirm the validity of the intents of a new or existing program. Also offered online. (F)

**8180 Readings in Instructional Technology. Cr. 1-6 (Max. 6)**

Prereq: nine credits in instructional technology. Individually-paced course: investigation of recent research studies and theoretical essays in the field. (T)

**8320 Performance Consulting and Analysis. Cr. 4**

Prereq: I T 7320. 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. (W)

**8500 Strategies for Teaching in Higher Education. Cr. 3**

Prereq: admission to a graduate program. Teaching in higher or adult education; topics may include: course design, writing tests, presentation skills, leading discussions, use of technology including course management systems. (W)

**9105 Conducting Research in Instructional Technology. Cr. 3**

Prereq: six credits in evaluation and research courses. Design, execution, and reporting of instructional technology research on selected topics. (B)

**9110 Advanced Research Seminar and Practicum. Cr. 3**

Prereq: doctoral student near completion of content major and research methods courses. Major types of research and their roles in instructional technology; includes qualitative, quantitative and developmental methodologies. Analysis of key issues and concerns. Students draft a dissertation research proposal, application for human subjects review, and timeline for degree completion. (W)



# Kinesiology, Health and Sport Studies

Office: 261 Matthaei Building; 313-577-4249

Interim Assistant Deans: Mariane Fahlman and Nathan McCaughtry

Website: <http://coe.wayne.edu/kinesiology/>

## Professors

Hermann-J. Engels, Jeffrey J. Martin

## Associate Professors

Mariane Fahlman, Randall J. Gretebeck, Qin Lai, Nathan A. McCaughtry, Bo Shen

## Assistant Professors

Yun S. Choi, Suzanna R. Dillon, Noel Kulik, Anne Murphy, Peter A. Roberts

## Lecturers

Judith S. Anderson, Janne Postma, Steven P. Singleton, Laurel Whalen

## Graduate Degrees

*BRIDGE GRADUATE CERTIFICATE in Adapted Physical Education, Coaching, Elementary Physical Education, Health Education, and Secondary Physical Education*

*MASTER OF EDUCATION with a major in Health Education*

*MASTER OF EDUCATION with a major in Kinesiology, with concentrations in Exercise and Sport Science, Physical Education Pedagogy, and Wellness Clinician/Research*

*MASTER OF ARTS IN TEACHING with a major in Secondary Education and a concentration in Kinesiology (Physical Education Pedagogy) or Health Education*

*MASTER OF ARTS with a major in Sports Administration, with concentrations in Interscholastic Athletic Administration, Intercollegiate Athletic Administration, Professional Sports Administration, or Commercial Sports Administration*

*DOCTOR OF PHILOSOPHY with a major in Kinesiology with concentrations in Exercise and Sport Science and Physical Education Pedagogy*

Health and kinesiology, as integral parts of a general education, focus attention upon the vital needs of the human being to acquire attitudes, knowledge and skills necessary for regular participation in healthful living and physical and leisure-time activities. Accordingly, the Division provides courses of instruction both to promote physical well being through athletic and exercise programs, and to prepare teachers and practitioners to promote such health in others. The decreased demands for physical vigor, as well as the increased tensions caused by the technological progress of the modern society, demand a scientific approach to these vital phases of well-being.

The Division of Kinesiology, Health and Sport Studies (KHS) provides courses of instruction in health education, kinesiology (exercise and sport science and physical education pedagogy) and sports administration for the general student body. In addition, it provides professional curricula at the undergraduate and graduate levels for those students seeking careers in these areas. For students interested in

advanced study and research the Division offers a doctoral program in Exercise and Sport Science, and Physical Education Pedagogy.

**Advisors:** Each student admitted to the College at the graduate level and seeking a degree is assigned to a faculty member who acts as the advisor. The advisor guides the student in the selection of courses and counsels the student in solving academic problems.

## Assistantships, Scholarships and Financial Aid

A number of assistantships are available in the area of kinesiology. Application should be made to the Office of the Assistant Dean, 261 Matthaei Building. Scholarships, loans, work-study, and other types of financial aid are available through Wayne State University; contact the University Office of Financial Aid; 313-577-3378.

Scholarships are also available in the College of Education; contact the Dean's office, College of Education; 313-577-1620.

## Admission to Master's Programs

Current and prospective students should always check the KHS web page, <http://coe.wayne.edu/kinesiology/>, for the most current information regarding admission and degree requirements.

Admission to graduate programs in the Division of Kinesiology, Health and Sport Studies is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to any program in the Division must meet the following criteria, as applicable:

**Regular Admission:** Applicants must have an undergraduate grade point average of 3.0 or above, and an undergraduate degree directly relating to the field of specialization being applied for, or an undergraduate degree accompanied by extensive educational background in a closely-related field.

**Qualified Admission:** Applicants whose undergraduate grade point average is between 2.5 and 2.9, and who otherwise meet the criteria for regular admission, will be admitted on this basis but will be required to successfully complete additional course work and/or other requirements as stipulated by the Division Graduate Officer.

**Non-Degree Admission (Pre- or Post-Master's):** Applicants must have an undergraduate grade point average of 2.5 or above, and an undergraduate degree in any field. Non-degree applicants must include a personal statement with their initial graduate application, specifying their intent to apply to a Kinesiology, Health and Sport Studies degree program prior to the earning of nine credit hours. Only one semester of full-time graduate study, part-time registrations not to exceed nine credits, are normally permitted in this classification. Based on the approval of the College of Education Graduate Officer, no more than nine credits taken in graduate non-degree admission status may later be applied to graduate degree program requirements. (See Graduate Non-Degree Admission, page 18.)

**Post-Bachelor Admission:** Applicants must have an undergraduate grade point average of 2.25 or above, and an undergraduate degree in any field. Post-Bachelor status allows students to elect courses through the 6000 level, for undergraduate credit only. (See 'Post-Bachelor Admission,' page 20.)

**Special Admission (Non-Degree or Post-Bachelor):** Upon recommendation of an advisor and the Division Graduate Officer, an applicant whose undergraduate grade point average is below 2.25 may be admitted on Non-Degree or Post-Bachelor status (see items 4 and 5, above), if the applicant demonstrates substantial evidence of meritorious academic achievement subsequent to the conferral of his/her undergraduate degree.

**Senior Rule Admission:** 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 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* form is required, and students are advised to consult their advisors and the Office of University 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.

## Master of Education with a Major in Health Education

Health Education is a professional field that is expanding rapidly, primarily because of recent Federal legislation that has emphasized health promotion and disease prevention as major priorities of national health and social policy. The goal of health education is to facilitate voluntary health-related behavioral and social change through application of the principles of the behavioral and social sciences. As such, health education is concerned with helping individuals and groups to assume responsibility for their health by learning and adopting behaviors, and by supporting social policies that can promote and maintain health. To this end, those earning a Master of Education with a major in health education develop competencies in: assessing individual and group needs for health education; planning, implementing, and evaluating effective health education programs; coordinating provisions for health education; acting as resource persons in health education; and communicating health and health education needs, concerns and resources.

There are two different programs for this degree:

M.Ed in Health Education for those pursuing employment with health departments, hospitals, businesses, and other community agencies.

M.Ed in Health Education with a teaching endorsement in Health, grades 6-12

### *M.Ed. In Health Education*

**DEGREE REQUIREMENTS:** The Master of Education with a major in health education degree is offered under the following plans:

**Plan A:** *Thirty-six credits including an eight-credit thesis*

**Plan B:** *Thirty-six credits including a three credit project*

**Plan C:** *thirty credits (neither thesis or project required)*

Requirements for this degree include: general professional education courses; specialization courses and elective courses. Professional education courses and electives should be chosen in consultation with an advisor. A minimum g.p.a. of 3.0 is required for graduation. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 32 and 94, respectively.

**General Professional Courses:** Students must select EER 7630 and one other course from the following general professional education courses.

EDP 5450 -- Child Psychology: Cr. 3

EDP 5480 -- Adolescent Psychology: Cr. 3

EDP 7350 -- The Learning Process: Cr. 3  
EDS 7630 -- Educational Sociology: Cr. 3  
EER 7610 -- Evaluation and Measurement: Cr. 3  
EER 7630 -- Fundamentals of Statistics (required course): Cr. 3  
KHS 5522 -- Health Psychology: Cr. 3

Minimum: 6 credits

#### Required Specialization Courses:

H E 6350 -- Health Education and the Nation's Health: Cr. 3  
H E 6420 -- Introduction to Health Education Program Design: Cr. 3  
H E 6530 -- Principles & Practice of Health Education & Promotion: Cr. 3  
H E 6550 -- Teaching Methods in Health Education: Cr. 3  
KHS 6540 -- Workshop in KHS (approved topic): Cr. 3  
KHS 8540 -- Theories of Health Behavior: Cr. 3  
KHS 7999 or 8999 -- Master's Essay and Project, or Thesis: Cr. 3-8

Minimum: 25 credits

**Elective Courses:** Additional courses from a list approved by the advisor, to complete the thirty-six credits required for graduation.

#### — *M.Ed. With Teaching Endorsement*

Teachers who possess a current Michigan teaching certificate may earn a health teaching endorsement by selecting this option.

**DEGREE REQUIREMENTS:** The professional preparation in Health Education leading to a Master of Education degree with a teaching endorsement in Health grades 6-12 requires a minimum of thirty credits and is divided into two general areas of study: specialization courses (twenty-four credits) and general professional courses (six credits) as outlined below. This option for the MED in Health Education is offered as a Plan C option for which neither an essay/project or thesis is required.

#### PRE-REQUISITE COURSES

H E 2330 -- First Aid and CPR: Cr. 3 (or certification)  
H E 4340 -- Family and Reproductive Health: Cr. 3 (or equivalent)

#### REQUIRED HEALTH EDUCATION COURSES: (24 credits)

H E 5220 -- Health Behavior Change: Cr. 3  
H E 5440 -- Mental Health and Substance Abuse: Cr. 3  
H E 5620 -- Performance Based Assessment in Health Education: Cr. 3  
H E 6350 -- Health Education and the Nation's Health: Cr. 3  
H E 6500 -- Comprehensive School Health Education: Cr. 3  
H E 6550 -- Teaching Methods and Techniques in Health Education: Cr. 3  
KHS 6540 or KHS 7990 or RLL 6802  
-- Workshop in KHS: Nutrition: Cr. 3  
-- Special Problems in KHS: Cr. 1-3 (Max. 9)  
-- Assessment & Differentiated Instr. for Diverse Learners: 6-12: Cr. 3  
KHS 5522 -- Health Psychology: Cr. 3

#### THREE GENERAL PROFESSIONAL COURSES (2 credits each)

CED 6700 -- Role of the Teacher in Guidance: Cr. 2  
EDP 5480 -- Adolescent Psychology: Cr. 2-3  
EDP 7350 -- The Learning Process: Cr. 2-3  
EDS 7630 -- Educational Sociology: Cr. 2-3  
EER 7630 -- Fundamentals of Statistics: Cr. 3  
EHP 7600 -- Philosophy of Education: Cr. 3  
RLL 6802 -- Assessment & Differentiated Instr. for Diverse Learners: 6-12: Cr. 3

Total degree requirements: 30 credits

## Master of Education with a Major in Kinesiology

The Master of Education with a Major in Kinesiology is offered under three concentrations: Physical Education Pedagogy, Exercise and Sport Science, and Wellness Clinician/Research. Completion of this degree requires satisfaction of one of these specializations as outlined below.

**Admission** to this program is contingent upon admission to the Graduate School and the Division of Kinesiology, Health and Sport

Studies; for requirements, see page 18, and the section above on 'Admission.'

## — Physical Education Pedagogy

This specialization is designed to prepare students for academic or professional careers in teaching physical education. It involves the study of concepts related to conducting physical activity programs, with an emphasis on those relating to school and sport contexts. This degree is intended to enable teachers certified in physical education to continue their studies in physical education pedagogy (including adapted physical education), and for teachers certified in other areas of education to obtain certification in physical education while simultaneously obtaining their graduate degree. As such, candidates for the program must hold a current Michigan teacher certification (but not necessarily in physical education).

**DEGREE REQUIREMENTS:** This Master of Education degree is offered under the following options:

**Plan A:** A minimum of thirty credits including an eight credit thesis

**Plan B:** A minimum of thirty credits including a three credit project

Requirements for this degree include major requirement/elective courses (minimum of twenty-four credits) and general professional courses (minimum of six credits). All courses are selected at the discretion and with the guidance of an advisor. A minimum g.p.a. of 3.0 is required for graduation. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 32 and 94, respectively.

**General Professional Courses:** Students must elect a minimum of six credits from the following courses:

CED 6700 -- Role of the Teacher in Guidance: 2  
EDP 5450 -- Child Psychology: Cr. 2-3  
EDP 5480 -- Adolescent Psychology: Cr. 2-3  
EDP 7350 -- The Learning Process: Cr. 2-3  
EDS 7630 -- Educational Sociology: Cr. 2-3  
EER 7630 -- Fundamentals of Statistics: Cr. 3  
EHP 7600 -- Philosophy of Education: Cr. 2-3  
KIN 7510 -- Socio-Cultural Issues in Physical Education: Cr. 3  
KHS 5521 -- Physical Education Psychology: Cr. 3  
SED 5600 -- Sport and Collaboration for Inclusive Teaching: Cr. 3  
RLL 6801 -- Assessment & Differentiated Instr. for Diverse Learners: PreK-8: Cr. 3  
RLL 6802 -- Assessment & Differentiated Instr. for Diverse Learners: 6-12: Cr. 3

#### MAJOR REQUIREMENT/ELECTIVE COURSES

Students must complete a minimum of 24 credits of specialization and elective courses in the areas of Kinesiology, Health, Sport Studies and Education. Sample courses to fulfill this requirement might include but are not limited to the following courses:

KHS 6540 -- Workshop in KHS: Cr. 1-3  
KHS 7990 -- Special Problems in KHS: Cr. 1-3  
KHS 7999/8999 -- Master's Essay and Project, or Thesis: Cr. 3-8  
KIN 5400 -- Inclusion in Physical Education: Cr. 3  
KIN 5410 -- PE for Students With Special Needs: Cr. 3  
KIN 5420 -- Sports and Recreation for Special Needs Children: Cr. 3  
KIN 5430 -- Practicum in PE for Exceptional Students: Cr. 3  
KIN 5530 -- Technology and Assessment in Kinesiology: Cr. 3  
KIN 6320 -- Fitness Assessment and Exercise Prescription: Cr. 3  
KIN 6610 -- Advanced Elem. Movement Education & Dance: Cr. 3  
KIN 6620 -- Advanced Sports Education: Cr. 3  
KIN 6630 -- Advanced Fitness and Adventure Education: Cr. 3  
KIN 7440 -- Research & Meth. in Phys. Ed. for Elem. School I: Cr. 3  
KIN 7450 -- Research & Meth. in Phys. Ed. for Elem. School II: Cr. 3  
KIN 7460 -- Research & Meth. in Phys. Ed. for Sec. School: Cr. 3  
KIN 7560 -- Achievement Motivation in Physical Education: Cr. 3  
KIN 8530 -- Motor Learning: Cr. 3

## — Exercise and Sport Science

This specialization is designed to help prepare students for careers in areas such as exercise physiology, cardiac rehabilitation, sport psychology, and motor control/development/learning.

**DEGREE REQUIREMENTS:** Thirty credits are required. Students selecting this program will concentrate in one of four areas: biomechanics, exercise physiology, motor control/development/learning, or exercise and sport psychology.

### REQUIRED COURSES

EER 7630 -- Fundamentals of Statistics: Cr. 3  
KHS 5523 -- Exercise Psychology: Cr. 3  
KIN 6310 -- Physiology of Exercise II: Cr. 3  
KIN 7580 -- Biomechanical Analysis of Motor Activity: Cr. 3  
KIN 8530 -- Motor Learning: Cr. 3

### CULMINATING EXPERIENCE (one of the following)

KHS 7999/8999/8750 -- Master's Essay and Project, or Thesis, or Graduate Internship: Cr. 3-8

**ELECTIVE COURSES:** as approved by advisor to complete the thirty credits required for graduation.

## — Wellness Clinician/Research

This specialization is designed for students interested in pursuing a career in the field of health and fitness promotion.

**DEGREE REQUIREMENTS:** Thirty-four credits are required as outlined in the following program:

### REQUIRED COURSES:

EER 7630 -- Fundamentals of Statistics: Cr. 3  
H E 6420 -- Introduction to Health Education Program Design: Cr. 3  
KHS 5522 -- Health Psychology: Cr. 3  
KHS 5523 -- Exercise Psychology: Cr. 3  
KIN 6310 -- Physiology of Exercise II: Cr. 3  
KIN 6320 -- Fitness Assessment and Exercise Prescription: Cr. 3

### CULMINATING EXPERIENCE (one of the following)

KHS 7999/8999/8750  
-- Master's Essay and Project, or Thesis, or Graduate Internship: Cr. 3-8

**ELECTIVE COURSES:** as approved by advisor to complete the thirty-four credits required for graduation.

## Master of Arts in Teaching with a Major in Secondary Education and a Concentration in Kinesiology (Physical Education Pedagogy)

This program prepares students for the teaching profession or academic studies in physical education pedagogy. Students study the physiological, psychological, and sociological bases of human movement; instructional methodologies; teacher education; and school curricula through a combination of intensive academic practical and research activities.

This M.A.T. degree is designed to enable individuals with a Bachelor's degree in a non-teaching field to attain a Master's degree, while simultaneously acquiring Michigan teacher certification. The degree is comprised of three sequential components: post-bachelor prerequisite courses, teacher certification courses, and Master's degree finalization courses. After completion of the post-bachelor prerequisite coursework, students apply for graduate status in the College of Education, develop a graduate plan of work, and complete the remaining two areas of coursework. Students obtain teacher certification after completion of the second component of the program and typically begin teaching employment while they complete the Master's finalization coursework. For more details see the Graduate Student Handbook at <http://www.kinesiology.wayne.edu>

NOTE: Teaching candidates certified after July 1, 2004 are required by the State of Michigan Department of Education to obtain First Aid and Adult and Child CPR certification before they can be recommended for the Michigan Teaching Certificate.

### Admission Requirements:

- 1) Bachelor's degree from an accredited college or university. Regular admission requires a minimum 2.75 grade point average. Qualified admission requires a minimum 2.5 grade point average.
- 2) A minimum 3.0 grade point average in prerequisite coursework and with a 'C' or better grade in all coursework.
- 3) Successful completion of the Michigan Test for Teacher Certification (MTTC) Basic Skills Examination. MTTC Basic Skills Examination scores must be furnished directly to Wayne State University by the MTTC testing agency: Evaluation Systems Group of Pearson. When registering for the MTTC, select "Wayne State University (31)" as a "College or University to Receive Scores". Students whose examination scores were not released to Wayne State University should request an original score report from Evaluation Systems Group of Pearson. An original score report is required by the Michigan Department of Education for verification of test scores.
- 4) Verification of experience working with children.
- 5) State of Michigan Criminal Background check.
- 6) Copy of transcript evaluation for teaching major and minor.
- 7) Admission to the Graduate School (see page 18).

**DEGREE REQUIREMENTS:** Students must complete at least forty credits preceded by any identified prerequisites. Teacher certification is required degree completion. Courses offered in the three components of the program are as follows:

### POST-BACHELOR PREREQUISITE COURSES

KIN 3400 -- Lifespan Growth & Development: Cr. 3  
KIN 3550 -- (WI) Motor Learning and Control: Cr. 3  
KIN 5400 -- Inclusion in Physical Education: Cr. 3  
KIN 5530 -- Technology and Assessment in Kinesiology: Cr. 3  
KIN 5580 -- Pediatric Exercise Physiology: Concepts and Applications: Cr. 3  
KIN 6610 -- Advanced Elementary Movement Education and Dance Cr 3  
KIN 6620 -- Advanced Sports Education Cr 3  
KIN 6630 -- Advanced Fitness and Adventure Education Cr 3

### TEACHER CERTIFICATION COURSES

EDP 6210 -- Foundations of Educational Psychology: Cr 3  
KIN 5780 -- Student Teaching and Seminar I: Cr. 6  
KIN 5790 -- Student Teaching and Seminar II: Cr. 4  
KIN 7440 -- Research & Methods in PE for Elem. School I: Cr. 3  
KIN 7450 -- Research & Methods in PE for Elem. School II: Cr. 3  
KIN 7460 -- Research & Methods in PE for Sec. School: Cr. 3  
KIN 7510 -- Socio-Cultural Issues in Physical Education: Cr. 3  
RLL 6121 -- Teaching Reading in Content Area: Grades 6-12: Cr. 3

### MASTER'S FINALIZATION COURSES

Non-Thesis Option  
KHS 7999 -- Master's Essay & Project Direction: Cr. 3  
Plus additional coursework to reach the forty graduate credit minimum for the M.A.T. degree (if necessary)  
Thesis Option  
KHS 8999 -- Master's Thesis Direction: Cr. 8

## Master of Arts with a Major in Sports Administration

This program is designed to prepare students for a career within the broad spectrum of sports programs, agencies, and related organizations. Students may specialize in one of four areas of concentration: interscholastic athletic administration, intercollegiate athletic administration, commercial sports administration, or professional sports

administration. Students may custom-design their curriculum through internships and elective coursework as approved by their advisor.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107.

**DEGREE REQUIREMENTS:** This Master of Arts degree is offered as a Plan C option. Plan C requires thirty-four credits in course work including twenty-five credits in required courses, with the remaining credits from courses to be selected in consultation with an advisor. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 32 and 94, respectively.

**Required Courses:**

- KHS 8750 -- Internship in KHS: Cr. 4
- KHS 7581 -- Sport Finance: Cr. 3
- KHS 6661 -- Equity and Access in Sport: Cr. 2
- KHS 6570 -- Sports Marketing : Cr. 3
- KHS 6660 -- Risk Management in Physical Ed and Sports: Cr. 3
- KHS 7540 -- Concepts in H E, P E and Recreation Management: Cr. 3
- KIN 6410 -- Introduction to Sports Administration: Cr. 3

**Selected Courses:** Additional courses from a list approved by the advisor to complete the minimum of thirty credits required for graduation. A minimum of twenty-four of these thirty credits required for graduation must be earned in courses within the Division of Kinesiology, Health and Sport Studies.

## Endorsement in Adapted Physical Education

This program leads to state endorsement as a "teacher of students requiring adapted physical education" (SP endorsement). The program requires twenty-four credits in approved special education and adapted physical education courses. The requirements for the Adapted Physical Education endorsement can be completed as part of a graduate program leading to a Master of Education (M.Ed) with a Major in Kinesiology (Physical Education Pedagogy).

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate in physical education or any area of special education.

**ENDORSEMENT REQUIREMENTS**

- KIN 5400 -- Inclusion in PE: Cr. 3
- KIN 5410 -- PE for Students with Special Needs: Cr. 3
- KIN 5420 -- Sports & Recreation for Special Needs Children: Cr. 3
- KIN 5430 -- Practicum in P E for Exceptional Students: Cr. 3
- SED 5030 -- Education of Exceptional Children: Cr. 3
- SED 5110 -- Intro.: Cognitive Impairment and Educ. Interventions: Cr. 3
- SED 5260 -- Instructional Strategies: Exceptional Learners: Cr. 3
- SED 5600 -- Support and Collaboration for Inclusive Teaching: Cr. 3

Total: 24 credits

## Adapted Physical Education (Bridge Graduate Certificate)

The Graduate Bridge Certificate in Adapted Physical Education leads to an endorsement to the Michigan teaching certificate in physical education for individuals with disabilities. As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Kinesiology Pedagogy (Physical Education) if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan

teaching certificate with an endorsement in either physical education or any area of special education.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Adapted Physical Education requires a minimum of twenty-four credits as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES: (24 credits)**

- KIN 5400 -- Inclusion in Physical Education: Cr. 3
- KIN 5410 -- Physical Education for Students with Special Needs: Cr. 3
- KIN 5420 -- Sports and Recreation for Special Needs Children: Cr. 3
- KIN 5430 -- Practicum in Adapted Physical Education: Cr. 3
- SED 5030 -- Education of Exceptional Children: Cr. 3
- SED 5110 -- Intro. to Cognitive Impairment and Educational Interventions: Cr. 3
- SED 5260 -- Strategies: Exceptional Learners: Cr. 3
- SED 5600 -- Collaborative Support: Inclusive Education: Cr. 3

## Coaching (Bridge Graduate Certificate)

The Graduate Bridge Certificate in Coaching enhances the knowledge and expertise of aspiring and practicing coaches at all levels and advances existing coaching practices through evaluation and application of current research. The principles covered in this program apply to all coaching endeavors and are not specific to any one sport.

As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Arts degree with a major in Sports Administration if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Coaching requires a minimum of twelve credits including nine credits of core courses and three elective credits to be chosen from the courses cited below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**CORE COURSES: (9 credits)**

- KIN 5510 -- Coaching Principles and Certification: Cr. 3
- KHS 6660 -- Risk Management in Physical Education and Sports: Cr. 3
- KHS 7540 -- Concepts of Mgt. in Health, Physical Education, & Recreation: Cr. 3

**ELECTIVE COURSES: (3 credits)**

- KHS 7300 -- Interscholastic Athletic Directing: Cr. 3
- KHS 7310 -- Intercollegiate Athletic Administration: Cr. 3

## Elementary Physical Education (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Elementary Physical Education leads to an endorsement to the Michigan elementary teaching certificate in Physical Education (6-8). Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area exam will earn the endorsement.

As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Kinesiology Pedagogy (Physical Education) if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan elementary teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Elementary Physical Education requires a minimum of twenty-four credits as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively...

**REQUIRED COURSES:** (24 credits)

- KIN 5400 -- Inclusion in Physical Education: Cr. 3.
- KIN 5530 -- Technology and Assessment in Kinesiology: Cr. 3
- KIN 5580 -- Pediatric Exercise Physiology: Cr. 3
- KIN 6610 -- Advanced Movement Education and Dance: Cr. 3
- KIN 6620 -- Advanced Sports Education: Cr. 3
- KIN 6630 -- Advanced Adventure and Fitness Education: Cr. 3
- KIN 7440 -- Research and Methods in PE for Elementary Children I: Cr. 3
- KIN 7450 -- Research and Methods in PE for Elementary Children II: Cr. 3

## Health Education (Bridge Graduate Certificate)

The goal of health education is to facilitate voluntary health-related behavioral and social change through application of the principles of the behavioral and social sciences. Health education is concerned with helping individuals and groups to assume responsibility for their health by learning and adopting behaviors, and by supporting social policies that can promote and maintain health.

The Graduate Bridge Certificate in Health Education leads to an endorsement to the Michigan elementary teaching certificate in Health. Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area exam will earn the endorsement. As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Health Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Health Education requires a minimum of twenty-four credits as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (24 credits)

- H E 5220 -- Health Behavior Change: Cr. 3
- H E 5440 -- Mental Health and Substance Abuse: Cr. 3
- H E 5620 -- Performance Based Assessment in Health Education: Cr. 3
- H E 6350 -- Health and the Nation's Health: Cr. 3
- H E 6500 -- Comprehensive School Health Education: Cr. 3
- H E 6550 -- Teaching Methods and Techniques in Health Education: Cr. 3
- KHS 5522 -- Health Psychology: Cr. 3
- KHS 6540 -- Workshop in Health Education in Nutrition: Cr. 3

## Secondary Physical Education (Bridge Graduate Certificate)

The Graduate Bridge Certificate in Secondary Physical Education leads to an endorsement to the Michigan secondary teaching certificate in Physical Education (6-12). Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area exam will earn the endorsement. As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Kinesiology Pedagogy (Physical Edu-

cation) if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan secondary teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Secondary Physical Education requires a minimum of twenty-four credits listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively..

**REQUIRED COURSES:** (24 credits)

- KIN 5400 -- Inclusion in Physical Education: Cr. 3
- KIN 5530 -- Technology and Assessment in Kinesiology: Cr. 3
- KIN 5580 -- Pediatric Exercise Physiology: Cr. 3
- KIN 6610 -- Advanced Movement Education and Dance: Cr. 3
- KIN 6620 -- Advanced Sports Education: Cr. 3
- KIN 6630 -- Advanced Adventure and Fitness Education: Cr. 3
- KIN 7460 -- Research & Methods in Phys. Ed. for Sec. School Students: Cr. 3
- KIN 7510 -- Socio-cultural Issues in Physical Education: Cr. 3.

## Doctor of Philosophy with a Major in Kinesiology

The Ph.D. program in Kinesiology will prepare students to become teachers and researchers at academic institutions and other venues requiring Ph.D.-trained professionals. The exercise and sport science concentration offers students unique research opportunities in an urban setting as well as study and research options with other units such as nutrition and food science, physical therapy and the school of medicine. The physical education pedagogy concentration students benefit from a strong faculty research program in physical education pedagogy and access to other units in the College of Education. These provide students with both a unique and wide range of study.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107.

**DEGREE REQUIREMENTS:** The general requirements for this degree are stated on page 96. For the Ph.D. program in Kinesiology, the core courses provide a background in the respective concentrations. The statistics/research methods courses provide background in the design of research protocols and subsequent analysis of data. The doctoral seminar courses provide the opportunity to interact with other doctoral students in a setting that promotes the discussion of specific research topics. The cognate/elective courses supplement the knowledge base for the student's research. The dissertation credits allow the students to design and implement a program of original research culminating in a dissertation.

**REQUIRED CORE COURSES**

*Physical Education Pedagogy concentration (24 credits total):*

- KHS 9600 -- Doctoral Sem. in Kinesiology, Health, and Sport Studies: Cr. 3
- KIN 7510 -- Socio-Cultural Issues in Physical Education: Cr. 3
- KIN 7440 -- Rsch. and Meth. in Physical Ed. for Elem. School Children I: Cr.3
- KIN 7460 -- Rsch and Meth. in Physical Ed. for Secondary School Children: Cr. 3
- KIN 7560 -- Achievement Motivation in Physical Education: Cr. 3
- KIN 8400 -- Research in Physical Education: Cr. 3
- Six additional credits of approved Kinesiology courses

*Exercise and Sport Science concentration (25 credits total):*

- KHS 9600 -- Doctoral Sem. in Kinesiology, Health, and Sport Studies: Cr. 3
- KHS 8700 -- Research in Psycho-Social Dimensions of Physical Activity: Cr. 3
- KIN 6310 -- Physiology of Exercise II: Cr. 3
- KIN 8530 -- Motor Learning: Cr. 3

KIN 8540 -- Theories in Motor Development: Cr. 3)  
Six additional credits of approved Kinesiology courses

#### REQUIREMENTS FOR BOTH CONCENTRATIONS

Statistics and research methods courses as approved: fifteen credits.

Doctoral seminar courses as approved: Six credits.

Cognate courses: Ten credits in the student's area of interest.

Elective courses: Additional courses in student's area of interest to meet the total requirement of 100 credits.

Dissertation Courses: thirty dissertation credits.

**GRADUATION REQUIREMENTS:** All coursework must be completed in accordance with Graduate School and the College of Education regulations governing graduate scholarship and degrees. Students may enroll on a full-time or part-time basis but must complete requirements within seven years of admission.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

Students are strongly advised to visit the KHS website (<http://coe.wayne.edu/kinesiology/>) to verify the current schedule of planned course offerings.

## DRIVER EDUCATION (D E)

### 5730 Driver Task Analysis. Cr. 2

Prereq: valid Michigan driver's license. Preparation for students to become driver education instructors through the content knowledge and skills necessary to teach driver education. (F,W)

### 5740 Developing Classroom Instructional Knowledge in Driver Education. Cr. 2

Prereq: D E 5730. Second in series of four courses. Content, knowledge and skills for providing quality driver education classroom instruction, successful management of the classroom, and appropriate student evaluation. (F,S)

### 5750 Developing Vehicle Operational Skills. Cr. 2

Prereq: D E 5740. Third in series of four courses. Focus on preparing the prospective driver education teacher to conduct instruction which develops vehicle operation skills for the novice driver. (W,S)

### 5760 Seminar/Practicum in Driver Education. Cr. 2

Prereq: D E 5750. Last of sequence of four courses on preparation to become a driver education instructor. Practical classroom and behind-the-wheel instruction experience in an approved driver education program. (W,S)

## HEALTH EDUCATION (H E)

### 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. (B)

### 5440 Mental Health and Substance Abuse. Cr. 3

Prereq: H E 2310 or H E 3300. 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. (T)

### 5500 Evaluation and Measurement in Kinesiology and Health. (KIN 5500) Cr. 3

Prereq: admission to College of Education Level 2. Elementary statistical methods and evaluative techniques applied to health and kinesiology. Test construction and standard measurement approaches. (W)

### 5620 Performance Based Assessment in Health Education. Cr. 3

Prereq: admission to College of Education Level 2; successful completion of 15 credits in H E courses. 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. (S)

### 5660 Mental Health. Cr. 3

Mental health, mental illness, stress and mental health delivery. Mental health examined from biological, psychological, social and political perspectives; focus on adolescent and mental health. (I)

### 5780 Directed Student Teaching. Cr. 10

Offered for S and U grades only. Prereq: admission to student teaching as listed in the undergraduate handbook. Secondary school teaching experience. (F,W)

### 6350 Health Education and the Nation's Health. Cr. 3

Introductory course for graduate health program. Current national health status; contributory factors including: policies, controversies, hazards, proposed solutions to problems in the health care system and delivery of health care. (B)

### 6420 Introduction to Health Education Program Design. Cr. 3

Prereq: graduate major in Health Education. Overview of health education program process in all practice settings. Introduction to needs assessment, objective writing, staff training, and evaluation in health education. (B)

### 6430 (WI) School Health Curriculum. Cr. 3

Offered for S and U grades only. Prereq: H E 3330 or H E 6500.. 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 majors. (F,W)

### 6500 Comprehensive School Health Education. Cr. 3

Open only to major or minor in health education. Prereq: graduate standing; or H E 2310, H E 3300, H E 3440, H E 4340, H E 5440 and admission to College Level 2. 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. (W)

### 6530 Principles and Practice of Health Education and Health Promotion. Cr. 3

Prereq: graduate standing and H E 6420 or consent of instructor. Principles and application of health education programs in the community or health care setting. Consultation skills, marketing and motivational strategies within the role of the health educator. (B)

### 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, behav-



ior change theory, and classroom management to produce effective health instruction. (B)

## KINESIOLOGY (KIN)

### **5330 Principles of Athletic Training. Cr. 3**

Prereq: BIO 2870 or equiv. Philosophy of athletic training and basic training room protocol. Theory of evaluation techniques, nutrition, emergency techniques. (B)

### **5340 Prevention, Care and Evaluation of Athletic Injuries. Cr. 3**

Prereq: BIO 2870 or equiv. The training room: its purpose, equipment and management. Principles and techniques of treating sprains, strains, and other injuries of the locomotor system and of the skin; evaluation techniques for these injuries. Application of heat, water, massage, electrical stimulation, ultrasound, and special exercises. Basic first aid procedures; training table; observation and directed experiences. (B)

### **5350 Exercise Science Internship. Cr. 4 (Max. 8)**

Prereq: KIN 6320, H E 2330; admission to College Level 2. Supervised experience in health and exercise programs with various populations at approved sites. (T)

### **5360 Senior Research Project. Cr. 4 (Max. 8)**

Prereq: consent of instructor. 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. (T)

### **5400 Inclusion in Physical Education. Cr. 3**

Prereq: BIO 2870 or equiv. with grade of C or above; KIN 3400; and admission to College Level 2. Conditions that impair students' health, mental and/or physical functioning. Motor characteristics, developmental sequences associated with differently-abled individuals. Integration of individual education plan as part of curriculum practices. Transcending of school environment to prepare children and youth for lifelong activity. Review of adaptive physical education and special education terminology, legislation, and student placement models. (F)

### **5410 Physical Education for Students with Special Needs: Methods and Materials. Cr. 3**

Prereq: KIN 5400; admission to College Level 2. Writing behavioral objectives for students with special needs. Adaptation of teaching methods and materials to meet the needs individuals with special needs in physical fitness, fundamental motor skills, individual and group games, and lifetime sports skills. (S)

### **5420 Sports and Recreation for Children with Special Needs. Cr. 3**

Prereq: KIN 5400; admission to College Level 2. Implementation of appropriate physical education curriculum for students with special needs. Coaching and training techniques for working with students with special needs in school, recreational, and competitive sports. (W)

### **5430 Practicum in Physical Education for the Exceptional Student. Cr. 3**

Prereq: KIN 5400, KIN 5410, KIN 5420; admission to College Level 2. Offered for S and U grades only. Directed fieldwork placement in teaching physical education to students with special needs in school, camp, sport, or recreational setting. Required for State of Michigan Approval in Teacher of Physical Education for students with disabilities. (F)

### **5500 Evaluation and Measurement in Kinesiology and Health. (H E 5500) Cr. 3**

Prereq: admission to College of Education Level 2 Elementary statistical methods and evaluative techniques applied to health, physical

education, and recreation. Test construction and standard measurement approaches. (W)

### **5510 Coaching Principles and Certification. 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. (S)

### **5530 Technology and Assessment in Kinesiology. Cr. 3**

Prereq: KIN 6610, KIN 6620, and KIN 6630; admission to College Level 2. Use of technology in physical education: computers, pedometers, heart rate monitors, personal digital assistants. Best current methods and activities for assessment in physical education. (W)

### **5550 Health and Physical Education for the Elementary School Teacher. Cr. 3**

Required for Elementary Education program. Broad content knowledge of developmentally appropriate physical education and health education for children in grades K-6. (T)

### **5580 Pediatric Exercise Physiology: Concepts and Applications. Cr. 3**

Prereq: BIO 2870 with grade of C or above. Contemporary physiological concepts as related to exercise and physical performance capacity in children, and their practical applications. (F,S)

### **5780 Student Teaching and Seminar I. Cr. 6-8 (FLD: 0;SMR: 0)**

Prereq: consent of kinesiology student teaching coordinator; Level 2 admission to College of Education. Offered for S and U grades only. Elementary experience in student teaching in the schools for students pursuing physical education teacher certification. Includes weekly seminar, covering topics related to teaching physical education in schools. (F)

### **5790 Student Teaching and Seminar II. Cr. 4-5**

Prereq: consent of kinesiology student teaching coordinator; Level 2 admission to College of Education. Offered for S and U grades only. Secondary experience in student teaching for students pursuing physical education teacher certification; includes weekly seminar. (W)

### **6310 (PSL 6010) Physiology of Exercise II. (P T 6310) Cr. 3**

Prereq: KIN 3570. 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. (F)

### **6320 Fitness Assessment and Exercise Prescription. Cr. 3**

Prereq: KIN 3570 or KIN 5580 or KIN 6310. Physiological principles of physical fitness, including health and fitness appraisal, body composition assessment, and exercise prescription guidelines. (W)

### **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. (F,W)

### **6610 Advanced Elementary Movement Education and Dance. Cr. 3**

Advanced study of elementary movement education through in-depth analysis of Graham's (2011) movement skill themes, as well as of dance education K-12. Students investigate research supporting inclusion of movement education and dance in quality physical education programs. (F)

### **6620 Advanced Sports Education. Cr. 3**

Advanced study of the theory underlying the four main sport categories: invasion, net/wall, target, and field. Students investigate research on teaching of sport in quality physical education programs, and curriculum models including Teaching Games for Understanding Sport Education models. (W)

**6630 Advanced Fitness and Adventure Education. Cr. 3**

Advanced study of adventure and fitness education, K-12. Research supporting its inclusion in quality physical education programs. Elementary and secondary adventure education; elementary and secondary fitness education. Use of technology to enhance physical education and assessment. (S)

**7440 Research and Methods in Physical Education for Elementary School Children I. Cr. 3**

Prereq: KIN 6610, KIN 6620, KIN 6630. Developmental approach to teaching elementary physical education in the schools. Theories and research that serve as the foundation for student learning in quality elementary physical education programs. Movement concepts, fundamental motor skills, curriculum design; implementation of activities in a practicum application. (F)

**7450 Research and Methods in Physical Education for Elementary School Children II. Cr. 3**

Prereq: KIN 7740. Continuation of KIN 7440. Developmentally-appropriate practices in elementary physical education: educational dance, educational gymnastics, games, adventure education, fitness activities. Curriculum design and lesson development within practicum experiences. (W)

**7460 Research and Methods in Physical Education for Secondary School Students. Cr. 3**

Prereq: KIN 7740. How to teach secondary physical education. Topics include: pedagogies of sport, adventure, fitness, and dance education; lesson planning, classroom and risk management, teaching styles; assessment, philosophies and underlying research. (W)

**7510 Socio-Cultural Issues in Physical Education. Cr. 3**

Contemporary and historical perspective on socio-cultural and philosophical issues that influence American public schooling and physical education teacher preparation, including race, class, gender, sexuality, and urbanization. (F)

**7520 Alternative Styles of Teaching in Physical Education. Cr. 3**

Knowledge and application of several styles of teaching; different interactions between teacher and learner. Array of styles from command to discovery, utilized in practice. (F)

**7530 Research in Teaching in Physical Education. Cr. 3**

Practical experiences in the research process. Topics include: methods for research on teaching, current research trends, research results related to teaching and teacher effectiveness, critique of current trends in educational practice. (F)

**7550 Curriculum Development in Physical Education. Cr. 3**

Basic curriculum theory applied to programs of physical education: designing the curriculum, selection of content and evaluation of outcome based on knowledge of growth and development, how learning occurs, and knowledge of current social aims, forces and problems. (W)

**7560 Achievement Motivation in Physical Education. Cr. 3**

Prereq: consent of instructor prior to registration. Enhancement of understanding of achievement motivation from a multi-theory perspective. (F)

**7580 Biomechanical Analysis of Motor Activity. Cr. 3**

Prereq: basic course in biomechanics/kinesiology. 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. (B)

**8400 Research in Physical Education. Cr. 3**

Prereq: graduate standing. Understanding physical education research in the three dominant research traditions of curriculum, teaching, and teacher education. (F)

**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. (B)

**8540 Theories in Motor Development. Cr. 3**

Theoretical base for understanding motor development across the lifespan. Contributions from theories of child development psychology and learning. Current research. (B)

**8560 Exercise Physiology. Cr. 3**

Prereq: KIN 6320. Response of human physiologic processes to various factors. Physiologic mechanisms underlying these responses. Methods of measuring responses; aerobic and anaerobic capacity, muscle strength and endurance, and body composition. Techniques of research. (B)

## KINESIOLOGY, HEALTH and SPORT STUDIES (KHS)

**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. (W)

**5521 Physical Education Psychology. Cr. 3**

Research on teacher-affect, behavior, and cognition in the areas of teacher efficacy, stress, attitudes, knowledge, and class management. Student-related topics include motivation, efficacy/competence, attitude, self-esteem development, knowledge, affect, learned helplessness, meaningfulness, alienation in physical education. (F)

**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. (F)

**5523 Exercise Psychology. Cr. 3**

Quality of life, self-esteem, mood, stress management, personality and exercise, coping with injury, exercise models and theories, motivational determinants of exercise, strategies for exercise adherence, peak moments and common exercise concerns; gender, children/youth, and older adult exercise issues, exercise guidelines for promoting optimal mood states. (W)

**5740 Facility Planning, Design and Construction. Cr. 3**

Process of planning, design and construction from dream of a new facility through its completion and opening for business. Methods of working with architects, consultants, engineers and contractors to design and build sports and recreation facilities that optimally support the programs that will use them. Overview of latest concepts, trends, and innovations in activity-related facilities. (F)

**6540 Workshop in Kinesiology, Health and Sport Studies. Cr. 1-3 (Max. 12)**

Prereq: consent of advisor prior to registration. Exploration of topics of current interest for the profession. (S)

**6550 Publicity, Promotion and Public Relations. Cr. 2**

Practical marketing methods and procedures used in promotion of athletics and related fields. Development of proposals, workshops, public relations policies. (F)

**6560 Media Design and Communication. Cr. 2**

Prereq: basic computer/word processing skills. Fundamentals of graphic design and layout for publication; use of computers in promoting, marketing, and managing health, physical education, recreation, and sports programs. (W)

**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. (F)

**6600 Role of the Health Professional in Substance Abuse. Cr. 3**

Health professional's role in identification, treatment and prevention of substance abuse. Basic drug terminology, theoretical perspectives in substance abuse; community and school environments. (W)

**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. (Y)

**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. (F)

**6661 Equity and Access in Sport. Cr. 2**

Historical and contemporary sport and physical activity experience in context of race, socioeconomic class, gender, age, disability, and culture. (F)

**6750 Fieldwork in KHS. Cr. 1-4 (Max. 8)**

Prereq: consent of advisor. 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. (F,W)

**7300 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. (Y)

**7310 Collegiate Athletic Administration. Cr. 3**

NCAA and NAIA as governing bodies. Difference in divisions and compliance rules for each division. Current collegiate athletic occupations; current issues and future trends in collegiate athletics. (Y)

**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. (W)

**7580 Entrepreneurship and Fund Raising in Kinesiology, Health and Sport Studies. Cr. 2**

Entrepreneurial opportunities created by changing trends and developments in athletics and KHS; development and study of current fundraising concepts and ideas. (W)

**7581 Sport Finance. Cr. 3**

Understanding financial management for planning, administering, and evaluating financial performance of sport-related entities. (W)

**7990 Special Problems in KHS. Cr. 1-3 (Max. 9)**

Prereq: written consent of supervising faculty. (F,W)

**7999 Master's Essay and Project Direction. Cr. 3**

Prereq: written consent of supervising faculty. Offered for S and U grades only. Development and review of essay or project. (F,W)

**8540 Theories of Health Behavior. Cr. 3**

Prereq: KHS 7560, H E 6530 or FPH 7760, KHS 7500 or consent of instructor. Selected theories from behavior sciences developed to apply to people's health actions. (B)

**8700 Research in the Psychosocial Aspects of Physical Activity. Cr. 3**

Prereq: graduate standing; admission to kinesiology Ph.D. program; consent of instructor for doctoral and master's students from other programs. Development of in-depth understanding of psychosocial aspects of research in physical activity (exercise, sport, leisure activity). (F)

**8750 Internship in KHS. Cr. 4**

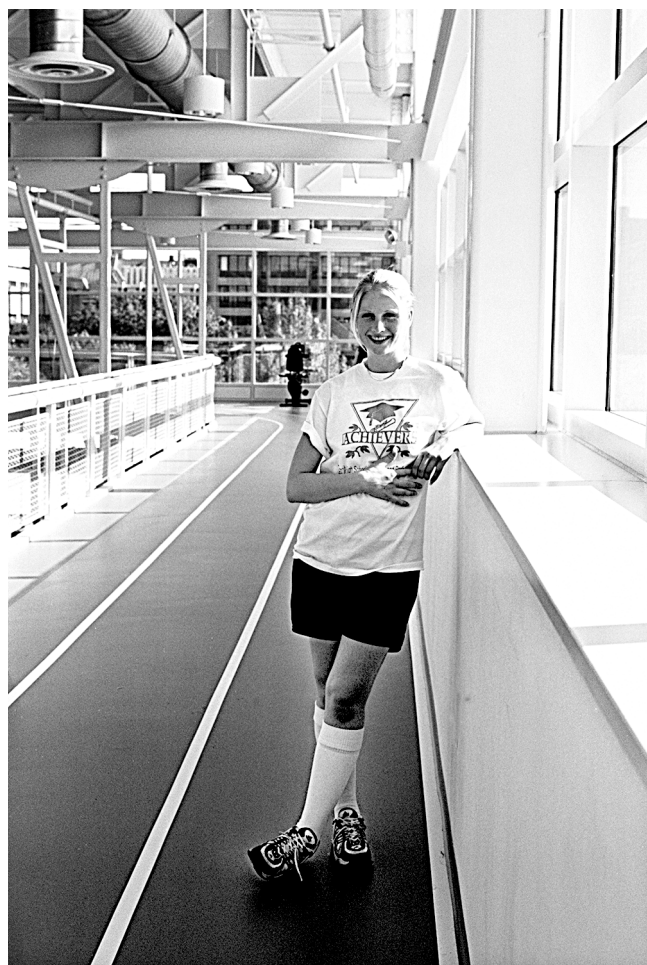
Prereq; successful completion of two-thirds of master's coursework; written consent of advisor. Professional experience in public or private institutions relevant to student's field of specialization. Initial plan of involvement and final evaluation. (T)

**8999 Master's Thesis Direction. Cr. 1-8 (Max. 8)**

Prereq: written consent of supervising faculty. (F,W)

**9600 Doctoral Seminar in Kinesiology, Health and Sport Studies. Cr. 3**

Prereq: graduate standing. Introduction to active programs of research in the field of kinesiology; research presentations and discussion by faculty, guest lecturers and students. (F)



# Teacher Education

Assistant Dean: R. Craig Roney  
Office: 241 Education Building; 313-577-0902  
Website: <http://coe.wayne.edu/ed>

Art Education Advising Office: 163 Community Arts Building

## Professors

Jazlin Ebenezer, Thomas Edwards, Janice Hale, Steve Ilmer, Leonard Kaplan (Emeritus), R. Craig Roney, David Whitin, Phyllis Whitin,

## Associate Professors

Poonam Arya, Navaz Bhavnagri, Kathleen Crawford-McKinney, Gina DeBlase, Sharon Elliott, Karen Feathers, Holly Feen, Maria Ferreira, Gerald Oglan, Asli Ozgun-Koca, Jacqueline Tilles

## Assistant Professors

Viveka O. Borum, Sandra Gonzales, David Grueber, Justine Kane, Mark J. Larson, Jennifer Lewis, Bob Pettapiece, Kathryn Roberts, Sally K. Roberts, Jo-Ann Snyder, GERALYN STEPHENS, Ebony E. Thomas, Marshall Zumberg, Ava Zeineddin, Gregory Zvric

## Lecturers

Oscar Abbott, Elsie Babcock, Mary Brady, James Brown, Kristy Brugar, Placidia Frierson, Anna Miller, Julie Osburn

## Graduate Degrees and Certificates

### MASTER OF ARTS IN TEACHING

*with majors in:*

*Elementary Education - with concentrations or minors in:*

*Bilingual-Bicultural Education (minor)*

*Children's Literature*

*Early Childhood Education*

*English as a Second Language (minor)*

*General Elementary Education*

*Mathematics Education*

*Science Education*

*Social Studies Education*

*Special Education (elementary certification required) -*

*with the following areas of specialization:*

*Autism Spectrum Disorders*

*Cognitive Impairment*

*Emotional Impairment*

*Learning Disabilities*

*Secondary Education - with concentrations or minors in:*

*Art Education (K-12)*

*Bilingual-Bicultural Education (minor)*

*Career and Technical Education*

*English as a Second Language (minor)*

*English Education*

*Foreign Language Education*

*Kinesiology (secondary certification required)*

*Mathematics Education*

*Science Education*

*Social Studies Education*

### MASTER OF EDUCATION

*with majors in*

*Art Education - with concentrations in:*

*Art Education*

*Art Therapy*

*Bilingual-Bicultural Education - with concentrations in:*

*Bilingual-Bicultural Education*

*English as a Second Language*

*Career and Technical Education*

*Early Childhood Education*

*Elementary Education -with concentrations in*

*Children's Literature*

*Early Childhood Education*

*General Elementary Education*

*Language Arts*

*Mathematics Education*

*Science Education*

*Social Studies Education*

*English Education (Secondary) - with concentrations in*

*English Education: Secondary*

*English as a Second Language*

*Foreign Language Education (Secondary) -*

*with concentrations in*

*Foreign Language: Secondary*

*English as a Second Language*

*Mathematics Education Secondary*

*Reading*

*Science Education*

*Social Studies Education: Secondary*

*Special Education - with concentrations in*

*Autism Spectrum Disorders*

*Emotional Impairment*

*Learning Disabilities*

*Cognitive Impairment*

*JOINT MASTER OF EDUCATION in Social Studies Education  
and Master of Arts with a major in History*

### EDUCATION SPECIALIST CERTIFICATE

*with majors in:*

*Curriculum and Instruction — with concentrations in*

*Bilingual Education*

*(with emphasis in Bilingual Education and/or*

*English as a Second Language)*

*Career and Technical Education*

*Early Childhood Education*

*Elementary Education*

*English Education*

*K-12 Curriculum*

*Mathematics Education*

*Science Education*

*Secondary Education*

*Social Studies Education*

*Reading*

*Special Education*

### DOCTOR OF EDUCATION

*and DOCTOR OF PHILOSOPHY — with majors in*

*Curriculum and Instruction — with concentrations in  
Art Education*

*Bilingual-Bicultural Education (Ed.D. only with emphasis in Bilingual Education and/or English as a Second Language)*  
*Career and Technical Education*  
*Early Childhood Education*  
*Elementary Education*  
*English Education — Secondary*  
*Foreign Language Education (with emphasis in Foreign Language or English as a Second Language)*  
*K-12 Curriculum*  
*Mathematics Education*  
*Science Education*  
*Secondary Education*  
*Social Studies Education: Secondary*  
*Reading, Language and Literature (Ed.D. only)*  
*Special Education*

#### **BRIDGE GRADUATE CERTIFICATE in**

*Autism Spectrum Disorders*  
*Cognitive Impairment (CI)*  
*Emotional Impairment (EI)*  
*Learning Disabilities (LD)*  
*Bilingual Education*  
*Career and Technical Education*  
*Early Childhood General and Special Education*  
*Elementary Education*  
*English as a Second Language*  
*Reading Specialist, K-12*  
*Visual Arts Education Specialist*

#### **POST-BACHELOR'S TEACHING CERTIFICATES**

*with majors and minors in:*

*Elementary Education - with concentrations in:*

*Bilingual-Bicultural Education (minor only)*  
*Early Childhood Education*  
*English as a Second Language (minor only)*  
*General Elementary Education*  
*Mathematics Education*  
*Science Education*

*Secondary Education - with concentrations in:*

*Art Education (K-12)*  
*Bilingual-Bicultural Education (minor only)*  
*Career and Technical Education*  
*Dance*  
*English as a Second Language (minor only)*  
*English Education*  
*Foreign Language Education*  
*Kinesiology K-12*  
*Mathematics Education*  
*Music - Instrumental K-12*  
*Music - Vocal K-12*  
*Science Education*  
*Social Studies Education*  
*Special Education*  
*Speech*

## **Graduate Teacher Education**

The graduate unit of the Division of Teacher Education emphasizes the development of competence in instruction and the improvement of curriculum at all levels and in many kinds of educational institu-

tions. The graduate programs in teacher education are designed to prepare educators who are:

- effective in schools and other educational settings;
- knowledgeable in content areas for which they are responsible;
- knowledgeable about growth and development of learners, teaching and learning styles, philosophical purposes of education and methodologies of education;
- committed to the continuous improvement of the processes of education;
- responsive to a rapidly-changing technology and cognizant of its implications for education;
- cognizant of the uniqueness of metropolitan areas;
- cognizant of the values and contributions of various racial, ethnic, and linguistic groups;
- capable of promoting an understanding of the dynamics of cultural and linguistic pluralism in our society;
- able to promote collaboration between teachers, schools, parents, community and students;
- capable of creative thought and able to stimulate and promote creative thought in their students;
- able to study educational issues through the design and implementation of a research project;
- able to identify and use the results of educational research;
- able to articulate their own ethical behavior;
- able to serve educational enterprises in local, national and international settings.

The Division offers degree programs for a wide range of advanced professional roles:

1. supervisory and resource teachers, coordinators, consultants, and curriculum specialists;
2. teachers and consultants in parent education in school and non-school settings;
3. college and university teachers and researchers in the field of teacher education.

## **Certificate in Infant Mental Health**

The Merrill-Palmer Skillman Institute (see page 55) offers an interdisciplinary graduate certificate in infant mental health. The certificate may be obtained concurrently with a graduate degree in one of the following areas: education, nursing, psychology, or social work; or it may be obtained independently by students already having a master's or doctoral degree in one of these areas. See page 55 for details on admission to this program.

## **MASTER OF ARTS IN TEACHING**

The Master of Arts in Teaching (M.A.T.) degree is designed for students who have completed a bachelor's degree in a non-education program with appropriate teaching majors and minors, and who desire both a master's degree and Michigan Provisional Teaching Certification at either the elementary or secondary level. Teaching certification can be earned prior to completion of the master's degree requirements (see Teaching Certification on page 119). Each of the M.A.T. programs consists of graduate level courses (several involving work with children in a school setting) and a student teaching experience for a minimum of one University semester.

Information regarding teaching certificate requirements can be found on page 119 of this bulletin.

**Admission** to the Master of Arts in Teaching is contingent upon admission to the Graduate School; for requirements, see page 18.

Students without appropriate teaching majors and minors and other general education requirements will be required to complete the necessary course work as post-degree students before entering the M.A.T. program.

Applicants to M.A.T. programs must be admissible to the Graduate School and the College of Education Division of Teacher Education. In order to be eligible for admission, all M.A.T. applicants must pass the State Basic Skills Test and must present verification of participation in group work with children and Michigan State Police Criminal Background check. Additional testing is required for Foreign Language majors and minors and Bilingual-Bicultural Education minors prior to admission.

The Michigan Test for Teacher Certification (MTTC) examination scores (Basic Skills and subject area tests) must be furnished directly to Wayne State University by Evaluation Systems Group of Pearson, the MTTC testing agency. When registering for the MTTC, students should select "Wayne State University (31)" as a "College or University to Receive Scores."

Students whose examination scores were not released to Wayne State University should request an original score report from Evaluation Systems Group of Pearson (<http://www.mttc.nesinc.com>). The scores must be mailed directly from Evaluation Systems Group of Pearson to Wayne State University. An original score report is required by the Michigan Department of Education for verification of test scores.

Persons interested in the elementary or secondary education M.A.T. degrees should consult with an admissions adviser, Room 469 or 489 Education Building, regarding appropriate teaching majors and minors and the process for a formal transcript evaluation.

## General M.A.T. Degree Requirements

Credit requirements for the various M.A.T. programs range from a minimum of forty to a maximum of fifty-two credits, depending on the applicant's background in his/her teaching field at the undergraduate level and specialized requirements.

All course work must be completed in accordance with the academic procedures of the College of Education and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 94, respectively. Requirements for the Master of Arts in Teaching degree must be completed within six years after completion of the first course to be applied to the degree.

Course work for the degree must be distributed among four areas: the major, the general professional sequence (core courses), elective courses, and a professional field experience. A teaching certificate is required in order to receive a M.A.T. degree.

**General Professional Core:** All M.A.T. students are required to complete the following general professional sequence:

EDP 6210 -- Foundations of Educational Psychology: Cr. 3

EHP 7600 -- Philosophy of Education: Cr. 2

**Elective Courses**, if needed for diversity in the program, are selected in consultation with an advisor at the time a Plan of Work is prepared.

**Professional Field Experiences** (pre-student teaching and student teaching) are integral parts of all M.A.T. programs, and must be completed during daytime school hours. Courses which involve field experiences are TED 5150, 5160, 5650, 5780, 5790 and BBE 6600. Information on the student teaching phases of the program is presented on page 120 of this bulletin.

## Secondary Education Major

**Major Requirements:** Courses which must be completed prior to student teaching are TED 5150, 5160, EDP 5480, RLL 6120. Additional courses required for certification are EHP 7600, BBE 5000,

SED 7050 and TED 6020. Courses required for the M.A.T. degree following completion of the certification program are courses specific to the concentration area of study (see below) and ED 7999.

## M.A.T. Degree Programs in Elementary Education Leading to K-8 Certification

### Elementary Education Major

**Major Requirements:** Courses which must be completed prior to student teaching are AED 5050; EDP 6210; TED 5150; RLL 6120; ELE 6200, 6290, 6310, 6390, 6500, 6600, BBE 5000, and SED 7050. Students wishing additional specialized endorsement may elect to complete one of the following minor concentrations.

### — Elementary Education Minor Concentrations

**EARLY CHILDHOOD EDUCATION:** In addition to the elementary education requirements stated above, students seeking an Early Childhood Endorsement on their teaching certificate must have a minor in early childhood. Courses which must be completed prior to student teaching are EDP 6210; TED 5150; RLL 6120; ELE 6040, 6200, 6310, 6340, 6390, 6600. In addition to student teaching, other courses required for the early childhood endorsement and the M.A.T. degree are ELE 6020, 6060, 6080, 7020; EDP 5450; BBE 5000; SED 7050; EHP 7600; ED 7999. The plan for this minor must be done in consultation with their advisor.

**BILINGUAL/BICULTURAL EDUCATION:** In addition to the elementary education requirements stated above, students seeking an M.A.T. in elementary education with a bilingual-bicultural minor and endorsement must complete BBE 5000, 5500, 6560, 6590, 6600, 6850; TED 7000; LED 6520 and 6555 and RLL 6700.

Only one general professional core course is required: EDP 5450 as an alternate for EDP 6210.

All students in the bilingual-bicultural program must successfully complete the language proficiency examinations in English and in the designated language of his/her individual program prior to admission.

**ENGLISH AS A SECOND LANGUAGE:** In addition to the elementary education requirements stated above, students seeking an M.A.T. in elementary education with an English as a Second Language minor and endorsement must complete BBE 6600, 6850; LED 6510, 6520, 6555, 6565, 6580 and RLL 6700.

Only two general professional core courses are required: TED 5150 and EDP 5450 as an alternative for EDP 6210. All students in the English as a Second Language program must successfully complete language examination in English and must document experience learning a second/foreign language before completing twelve credits toward the degree.

**SCIENCE EDUCATION:** In addition to the elementary education requirements stated above, students seeking elementary certification with a science major must complete TED 7000; twelve credits of science education course work including ELE 6500. Additional courses required for the M.A.T. degree are selected in consultation with an advisor.

### Secondary Education Major Concentrations

**BILINGUAL-BICULTURAL EDUCATION:** Students in an M.A.T. program in secondary education with a bilingual-bicultural minor and endorsement must complete BBE 5000, 5500, 6560, 6590, 6600, 6850; LED 6520, 6555; RLL 6121; TED 7000; and ED 7999. Six credits in methods courses in the major field are to be selected in consultation with the appropriate major advisor.

The required general professional core courses should include EDP 5480 as an alternate for EDP 6210.

All students in the bilingual-bicultural program must successfully complete the language proficiency examinations in English and the designated language of his/her individual program prior to taking courses for this minor.

**ENGLISH AS A SECOND LANGUAGE:** Students in the M.A.T. program in secondary education with an English as a Second Language minor and endorsement must complete BBE 5000, 6600, 6850; LED 6510, 6520, 6555, 6565, 6580; RLL 6121; TED 7000 and ED 7999. Six credits in methods courses in the major field are selected in consultation with the appropriate advisor.

**ENGLISH EDUCATION:** Requirements for this major include EED 5200, 6120, 6210, 6310, 6330; ED 7999; RLL 6121, plus elective courses chosen in consultation with an advisor.

**FOREIGN LANGUAGE EDUCATION:** Requirements for this major include TED 7000; LED 6520, 6530; RLL 6121; ED 7999 and specialty courses including the following: LED 6510 and 6580.

The required general professional core courses should include: EDP 6210 or 5480, and EHP 7600.

Additional methods courses are chosen with the approval of the advisor.

Students must complete the language proficiency examination in the designated language of his/her program prior to taking courses for this program.

**MATHEMATICS EDUCATION:** Requirements for this major include TED 7000; ED 7999; RLL 6121; MAE 5150; MAE 6050; and two courses selected from: MAE 6150, 7250, 7300, 7150 and 7200. Additional courses are selected in consultation with an advisor.

**SCIENCE EDUCATION:** Requirements for this major include TED 6020, 7000; ED 7999; SCE 5060, 5070 or 6030 and two elective science courses; RLL 6121; and CHM 6740. Additional methods courses and electives are selected in consultation with an advisor.

**SOCIAL STUDIES EDUCATION:** Required courses in this major include SSE 6710, 6720, 6730, 7780, 8740; ED 7999; RLL 6121; EHP 7600, SED 7050, BBE 5000, and TED 6020 and 7000.

**CAREER and TECHNICAL EDUCATION:** Required courses for this major include: CTE 5410, 6993; EDP 5480, EHP 7600, RLL 6121, TED 6020, ED 7999, SED 7050, and one elective. There is also a requirement of two years (4000 hours) of recent and relevant work experience (within the past five years) in an approved vocational occupation for this program.

Two specific methods courses are required for each of the above-mentioned fields and must be selected in consultation with an advisor. Some programs require a third methods course.

Among the general professional core courses (see page 94) for secondary education, EDP 5480 should be substituted for EDP 6210.

The student teaching assignment (TED 5780) for this program requires a full-time assignment to a public school for a minimum of one University semester.

Applicants should consult with the appropriate advisor prior to filing an admissions application in order to determine the appropriateness of various major and minor areas of study to the student's interest.

## K-12 Education Concentration

**K-12 FOREIGN LANGUAGE EDUCATION:** in addition to the elementary or secondary education requirements described above, students seeking an elementary or secondary certification with a K-12 foreign language endorsement must complete the coursework for a teaching major in the foreign language and the following pre-requisites: LED 6500 (for secondary education), LED 6530 (for elemen-

tary education), EDP 5450 (for secondary education) or EDP 5480 (for elementary education).

**SPECIAL EDUCATION:** in addition to the elementary education requirements stated above, students seeking elementary certification with a special education major must complete a special education program. Additional courses in special education (29-35 credits) are selected in consultation with an advisor.

## TEACHING CERTIFICATES

Present-day education is characterized by specialization at the secondary and elementary levels, related to both subject-matter fields and the age of school children. The Michigan Certification Code provides for specialization in either the elementary, middle, or secondary school areas by authorizing state certification for teaching on those levels. Thus, a person who has kindergarten through grade eight endorsement is not legally qualified to teach in the secondary schools above grade eight, and a person with grades six through twelve endorsement is not legally qualified to teach below grade six. An exception is made in certain fields such as art, physical education, dance and music education, where the holder of a provisional certificate is qualified to teach his/her major subject in all grades, and, if indicated by his/her certificate, other subjects in other grades.

The certification code recognizes subject-matter specialization by requiring that the candidate for a teacher's certificate present concentrations of credits called majors and minors. The secondary school teacher must have a major and minor teaching field. The elementary school teacher must have one of the following options: 1) a core subject major or two minors and the Elementary Planned Program or 2) a student-centered program and the Elementary Comprehensive Major. The Elementary Planned Program/Comprehensive Major is a series of courses designed to support the teaching of all subjects K-5: economics, world regional patterns (geography), United States history (two courses), Michigan history, world history, American government, health and physical education; biological sciences, physical sciences; earth/space sciences; mathematics for the elementary teacher (two courses); and computer applications in teaching. All majors and minors must be in subject-matter fields appropriate to teaching at the level for which certification is to be recommended. Individuals must pass state examinations in their major and minor fields before they begin student teaching.

## Certification Requirements

Michigan State Teacher's Certificates are granted by the Michigan State Board of Education upon the recommendation of the College of Education. Initial certificates are provisional for a six-year period and may become a five-year professional certificate after completing additional requirements. Five-year professional certificates must be renewed every five years. Contact a College of Education advisor for additional information. Certificates will indicate in which grades and subjects the holder is eligible to teach. In certain specified nonacademic fields, however, the holder of a provisional certificate is eligible to teach his/her major subject in all grades from the kindergarten through the twelfth. The qualifications which the College requires for recommendation for the certificate are summarized below.

**State Basic Skills Test:** All students seeking admission to a M.A.T. or post-bachelor teacher certification program are required to pass the State Basic Skills Test prior to admission to the teacher certification program. The test results must be furnished directly to Wayne State University by Evaluation Systems Group of Pearson, the testing agency. When registering for the test, students should select "Wayne State University (31)" as a "College or University to Receive Scores."

**State Basic Skills Test:** All students seeking admission to a M.A.T. or post-bachelor teacher certification program are required to pass the State Basic Skills Test prior to admission to the teacher certification program. The test results must be furnished directly to Wayne State University by Evaluation Systems Group of Pearson,

the testing agency. When registering for the test, students should select "Wayne State University (31)" as a "College or University to Receive Scores."

## Provisional Certificates

Teaching certificates as listed below are granted upon the completion of the professional education sequence of the M.A.T. program.

**Elementary Provisional Certificate**—for Kindergarten through Grade Five, and Grades Six through Eight in subjects corresponding to majors and minors.

**Secondary Provisional Certificate**—for Grades Six through Twelve

1. The candidate must have graduated with a bachelor's degree from an approved or accredited institution.
2. The academic background must include one of the options appropriate to elementary or secondary education as listed above in the Teacher Certification section. Majors and minors must correspond to disciplines listed on the State of Michigan Approved List of Majors and Minors.
3. Completion of the professional education sequence is required.
4. Teaching candidates are required by the Michigan State Department of Education to obtain First Aid and Adult and Child CPR Certification, by a state approved program, before they can teach in the State of Michigan. Also, a Michigan State Police Criminal Background check no more than six months old is required (<http://apps.michigan.gov/ICHAT/Home.aspx>)
5. Career & Technical Education (CTE) Majors in Health Occupations and Trade and Industry must have two majors: An academic major and the CTE major. A minor is not required.

## Certificate Endorsement

Holders of one level of certificate who wish to add another level (i.e., elementary to secondary or vice versa) must consult an advisor in the Division of Academic Services, 469 or 489 Education Building.

## Professional Education Certificate

This certification is available to holders of provisional certificates who have taught successfully for three years after the issue date of their provisional certificate and have completed eighteen credits in a planned course of study after the issue date of their provisional certificate or have a master's degree. The following requirements apply to specific teaching classifications as indicated:

**Teachers of K-12 subjects:** art, dance, music, kinesiology, and special education may present experience at any grade level from kindergarten through grade 12.

**Vocational Endorsement:** Five-year professional certification with vocational endorsement requires a planned program. Students should consult the appropriate area advisor regarding certification for an approved program leading to a five-year professional certification with a vocational education endorsement.

All candidates for an elementary five-year professional certificate must have completed the following in order to qualify: 1) six credits in reading instruction in either their undergraduate or post-graduate preparation, three of which must be reading in the content areas, and 2) a three-credit course in the diagnosis and remediation of reading disabilities and differentiated instruction. This course must include field experiences. Students should consult an advisor in Room 469 Education Building for specific requirements.

All candidates for a secondary five-year professional certificate must have completed in their undergraduate or post-graduate preparation a three-credit course in reading in the content areas as well as a three-credit graduate course in the diagnosis and remediation of reading disabilities and differentiated instruction. This course must

include field experiences. Students should consult an advisor in Room 469 Education Building for specific requirements.

## Bilingual/Bicultural Endorsement

The Bilingual Endorsement certifies a teacher who is qualified to teach classes of bilingual children. Students qualifying for an initial provisional certificate complete a twenty-four credit minor for the endorsement. Students holding existing certificates may add a bilingual endorsement by completing a minimum twenty-credit planned program. Information and referral to the appropriate advisor for this endorsement may be obtained in Room 213 Education Building.

All students in the bilingual-bicultural program must successfully complete the language proficiency examinations in English and the designated language of his/her individual program prior to taking courses for this minor.

## English as a Second Language Endorsement

The English as a Second Language (ESL) Endorsement certifies a teacher who is qualified to teach learners with limited English proficiency. Students holding existing certificates may add an ESL endorsement by completing a minimum twenty-credit planned program. Information and referral to the appropriate advisor may be obtained in Room 213, Education Building

## Early Childhood Endorsement

The Early Childhood Endorsement is designed to ensure that teachers working with children from birth to the age of eight years and their families have had suitable preparation in the area. Teachers holding an elementary certificate must pass the State examination in early childhood education before receiving this endorsement. The endorsement program consists of a minimum of twenty credits beyond the requirements for the Provisional Certificate and experience in teaching two of the following three age levels: 1) infant - toddlers, 2) preschool, 3) kindergarten - third grade. The courses may be part of a master's, education specialist, or doctor of education program. Interested students should consult an early childhood advisor.

## K-12 Reading Endorsement

The K-12 Reading Specialist Endorsement is designed to prepare teachers to provide specialized instruction in reading within classrooms or in special programs at all grade levels in elementary, middle, and secondary schools to work with teachers in classrooms to improve literacy instruction and to supervise school or district level reading programs. Teachers holding an elementary or secondary certificate must complete a twenty-four credit program and then pass the State K-12 Reading Specialist examination in reading in order to receive this endorsement. The courses may be part of a master's, education specialist, or doctor of education program. Interested students should consult a reading program advisor.

## Middle Level Endorsement

The Middle Level Endorsement is a minimum twenty-credit planned program which adds an area of expertise for teachers who already hold a Michigan elementary or secondary teaching certificate. The endorsement extends Michigan teacher subject area certification to include grades five through nine. Information on this endorsement can be found at <http://ted.coe.wayne.edu/mle/Endorsement.html>

## Student Teaching

**Application:** Each student must make application for student teaching *in person* during the appropriate application period. The date a completed application form is submitted to the Office of Field Experiences (Room 489, Education Bldg.) will determine the semester dur-



ing which student teaching will take place. Student teaching application periods are as follows:

FALL SEMESTER: the preceding September

WINTER SEMESTER: the preceding January

**Procedures for Student Teaching Application:**

1. Confer with advisor to determine eligibility for student teaching.
2. Complete application forms provided by the Student Teaching Office, 489 Education Building, during application period.

**Prerequisites for Student Teaching Placement:**

1. Full admission to a M.A.T. program must be accomplished before application for student teaching can be accepted.
2. Completion, at Wayne State University, of not less than six credits in course work authorized by the student's curriculum area advisor.
3. Adequate work (at least 80%) in the teaching major and minor(s) as defined by the student's curriculum area in the College of Education.
4. Satisfactory completion of appropriate pre-student teaching courses and appropriate methods courses as outlined by the student's Plan of Work.
5. Satisfactory tuberculosis test within six months before assignment begins.
6. Passing scores on state examinations in basic skills and on the appropriate content areas.
7. Criminal background check and fingerprinting if required by the school district.

## Post-Bachelor's Teaching Certificate

This program is designed to offer teacher certification to holders of baccalaureate degrees with suitable teaching majors and minors, who do not choose to pursue the master's degree. The program incorporates classroom theory with practice, takes a minimum of four semesters to complete and is available at both the elementary and secondary levels.

**Admission** to this program requires an undergraduate g.p.a. of 2.5, successful completion of the State Basic Skills Test, and a bachelor's degree with an appropriate teaching major and minor earned at a regionally accredited institution. Also, applicants must submit proof of a Michigan State Police Criminal background check; group work experience with children; and for Foreign Language majors/minors and Bilingual/Bicultural Education minors, appropriate language proficiency testing.

**ELEMENTARY EDUCATION:** Admission to the elementary education curriculum is predicated upon review of the applicant's transcript to ensure that course requirements for the Elementary Planned Program/Comprehensive Major been satisfied. Depending upon this review, some additional course work may be required before beginning the professional sequence outlined below.

**CERTIFICATE REQUIREMENTS:** The elementary education certificate requires completion of forty-nine credits and the secondary education certificate requires completion of forty credits as specified in the following programs. These are professional education courses and are applicable to the certificate ONLY when taken after formal admission to the College of Education.

The grouping of courses cited below may (or may not) reflect individual semesters' work depending on the student's full- or part-time status. Field courses are taught in the public schools where student teaching assignments are made.

## Elementary Education Sequence (Forty-nine Credits)

### Field Courses

TED 3550 -- (WI) Teaching: Research, Theory and Practice: Cr. 5

### Campus Courses (must be taken prior to TED 5780)

EDP 3310 -- Educational Psychology: Cr. 3  
ELE 3200 -- Literature for Children: Cr. 3  
ELE 3300 -- Teaching Language Arts: Preprimary - 8: Cr. 3  
ELE 3320 -- Teaching Reading I: Emergent Literacy: Cr. 3  
ELE 3400 -- Teaching Mathematics: Preprimary - 8: Cr. 3  
ELE 3500 -- Teaching Science: Preprimary - 8: Cr. 3  
ELE 3600 -- Teaching Social Studies: PreK - 8: Cr. 3  
RLL 4430 -- Tchg. Reading II: Comprehension Preprimary-8: Cr. 3

### Additionally the following courses must be taken prior to certification

AED 5050 -- Integrating the Arts into the Elementary Classroom: Cr. 3  
BBE 5000 -- Multicultural Education in Urban America: Cr. 2  
ELE 6070 -- Family, Community and School Partnerships: Cr. 3  
SED 5010 -- Inclusive Teaching: Cr. 2  
TED 5780 -- Directed Teaching and Conference: Cr. 10

## Secondary Education Sequence (Forty-three credits)

Courses satisfying the methods requirements (first and second courses) vary with each discipline. Students should consult the *Curriculum Guide for Secondary Education* available from the Division of Academic Services, 489 Education Building.

BBE 5000 -- Multicultural Education in Urban America: Cr. 2  
EDP 5480 -- Adolescent Psychology: Cr. 3  
EHP 3600 -- Introduction to Philosophy of Education: Cr. 3  
RLL 4431 -- Teaching Reading in Middle & Secondary Areas: Cr. 3  
SED 5010 -- Inclusive Teaching: Cr. 2  
TED 5160 -- (WI) Anal. of Middle & Sec. School Tchg. (coreq: TED 5650): Cr. 3  
TED 5650 -- Pre-Student Tchg. Field Experience: Secondary (coreq: TED 5160): Cr. 5  
TED 5780 -- Directed Teaching and Conference: Cr. 10  
TED 6020 -- Computer Applications in Teaching I: Cr. 3  
Methods I course (in major): Cr. 3  
Methods II course (in major): Cr. 3  
Methods III course (in minor if applicable): Cr. 3

## MASTER OF EDUCATION

Generic admission and degree requirements for the Master of Education degrees offered by this department are presented on page 94. The following sections, under major degree headings, enumerate the specific amendments/variations to generic requirements, as well as program options.

### — with a Major in Art Education

The Master of Education degree with a major in Art Education assists graduates in becoming more effective art teachers and leaders in the field of art education. Emphasis is placed on each student designing a curriculum of graduate studies to fit his or her professional needs.

**Admission Requirements:** see page 94. For admission to the program the applicant must have: a baccalaureate degree from a college or university of recognized standing; a major in art; a teaching certificate; and adequate preparation and ability to pursue graduate study. Entering students should make an appointment with an Art Education graduate advisor for assistance: Room 163, Art Building.

**DEGREE REQUIREMENTS:** see page 94. This program requires thirty credits in course work: eight credits in art education research (TED 7000, ED 7999, and AED 7400); six credits in professional education courses; and sixteen credits in electives. Eighteen of the thirty credits required must be in the art education major. The intent is that the thirty credits will comprise a unified, meaningful curriculum extending each student's ability as an artist, a scholar, and a teacher.

## — Art Therapy Concentration

Art therapy is a specialization available in the Master of Education in Art Education degree program. In addition to the admission requirements stated above, students must submit letters of recommendation, an autobiographical statement, and a digital or slide portfolio. (A teaching certificate is NOT required for this program.) A concentration in Art Therapy is also available as part of the M.A. in Community Counseling in the Division of Theoretical and Behavioral Foundation.

**DEGREE REQUIREMENTS:** see page 94. This program is offered as a master's Plan B or Plan C, as defined on page 94. A minimum of forty-one credits is required for this concentration: twenty-four credits in art education and art therapy; six credits in the general professional sequence; and five research credits. The remaining six credits are approved electives in an area of art therapy specialization. A related essay or project of substantial quality concludes the program. Interested candidates should contact the Art Education office for additional information: Room 163, Community Arts Building; telephone: 313-577-0490.

## — with a Major in Bilingual/Bicultural Education

The bilingual-bicultural master's degree program was developed to enhance the basic skills of bilingual teachers and prepare them for roles as school district bilingual supervisors, district administrators, and resource room teachers. Thus, a number of curricula have been created to complete the degree, accommodating those who are certified teachers in need of a bilingual education endorsement and those who wish to only bilingual education training.

1. *Curriculum and Instruction* which involves teaching strategies and methodologies relevant to the teaching of native language, English as a second language and content curriculum areas in a bilingual setting as well as the role of culture in the cognitive development of children;
2. *Assessment* native language, English as a second language and content curriculum areas in a bilingual setting as well as the role of culture in the in the cognitive development of children;
3. *School-Community Relations* which includes the identification of those elements in the community which will function in concert with the school to promote learning in children; and
4. *Professional Socialization* which establishes those skills necessary to develop leadership in bilingual education.

**English as a Second/Foreign Language:** Students in the Bilingual/Bicultural Education program may also choose to become either teachers of English as a second language (ESL) or teachers of English as a foreign language (EFL). Persons who wish to devote themselves to ESL/EFL teaching come from a variety of backgrounds. Thus, a number of curricula have been devised to complete the degree, accommodating those who are certified teachers in need of an ESL endorsement, and those who wish only ESL/EFL training.

**Admission Requirements:** see page 94. Students entering this program must be proficient in both English and the cognate language of their individual program.

**DEGREE REQUIREMENTS:** see page 94. The Master of Education in this area is offered under Plans B or C, as defined on page 94. A minimum of thirty-three credits is required including TED 7000 and ED 7999. All other course requirements are selected in consultation with an advisor and are based on the specific background and needs of the student.

## — with a Major in Career and Technical Education

This program is designed for students with a secondary teaching certificate in a career and technical education specialty or teachers with vocational certification only. In addition, certified teachers may meet career and technical educational endorsement requirements in a career and technical education specialty. Upon completing the Master of Education and the required three years of appropriate teaching experience, the certified teacher will be eligible for both the five-year professional secondary certification and full vocational certification.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. The program consists of a minimum of thirty credits. Required courses include: CTE 6010, 6999, 7820, 8998; TED 7000; EER 7610; and ED 7999; additional courses are selected in consultation with an advisor. Deficiencies in relevant work experience must be completed in addition to the required thirty credits.

**Advising:** Information regarding career and technical education programs may be obtained from the Teacher Education area on the second floor of the College of Education Building.

## — with a Major in Elementary Education

This program is designed for teachers who wish to strengthen their present competencies and acquire new ideas and skills in curriculum and instruction in current elementary school programs. The majority of students in the program are seeking Michigan Five-Year Professional Certificates; many are earning specialized endorsements. The program also allows teachers certified in other areas to earn an elementary endorsement. A unique area of emphasis which some students may choose involves interdisciplinary learning and inquiry-based instruction combined with a multicultural perspective.

A large number of courses are available to develop a professional specialization in elementary curriculum and instruction. Students may elect to have a general specialization allowing them to choose from many subject areas or to emphasize the areas of children's literature, early childhood education, reading and language arts, mathematics, science, or social studies.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. The Master of Education in this area is offered under Plan A, B, or C, as defined on page 94.

## — with a Major in English Education (Secondary)

This program is designed to increase the skills and knowledge of teachers already holding certificates. Additionally, some students find this program useful as a preparation for positions as department heads or resource personnel.

**Admission Requirements:** see page 94. Admission to this program requires a teaching certificate and at least twenty-one credits in English.

**DEGREE REQUIREMENTS:** see page 94. The Master of Education is offered in this area under Plans A, B, or C, as defined on page 94. This program requires a minimum of thirty credits distributed as follows: seventeen credits in major course work including the final essay or project; six credits in general professional courses selected from such fields as educational psychology, educational philosophy, educational sociology, educational evaluation and research, and guidance and counseling; and six to nine credits in cognate courses selected to enrich the teaching major or minor. Additionally, students with less than a cumulative total of thirty credits in English (including the twenty-one credits required for admission) must make up the deficit within the cognate area.

**English as a Second/Foreign Language:** Students in the English Education program may also choose to become either teachers of English as a second language (ESL) or teachers of English as a foreign language (EFL). Persons who wish to devote themselves to ESL/EFL teaching come from a variety of backgrounds. Thus, a number of curricula have been devised to complete the degree, accommodating those who are certified teachers in need of an ESL endorsement, and those who wish only ESL/EFL training.

Requirements for this concentration are similar to the generic English Education major (see above), except that Plan A is not offered.

## — with a Major in Foreign Language Education

The goal of this program is to enhance the skills of the foreign language teacher through advanced linguistic training, advanced training in language teaching methodology, additional training in collecting cultural data for the cognate language, and additional study in the cognate language. Attention is also given to the uses of technology as an aid to language teaching.

**English as a Second/Foreign Language:** Students in the Foreign Language Education program may also choose to become either teachers of English as a second language (ESL) or teachers of English as a foreign language (EFL). Persons who wish to devote themselves to ESL/EFL teaching come from a variety of backgrounds. Thus, a number of curricula have been devised to complete the degree, accommodating those who are certified teachers in need of an ESL endorsement, and those who wish only ESL/EFL training.

Requirements for this concentration are similar to the generic Foreign Language Education major (see above), except that Plan A is not offered.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. The Master of Education in this area is offered under Plans B or C (as defined on page 94), and requires a minimum of thirty credits. Course requirements for the program include TED 7000; ED 7990 and 7999; LED 6580; general professional courses include EER 7610, EHP 7600, and EDP 7350. Additional courses in the language major are chosen with the approval of the advisor.

## — with a Major in Mathematics Education (Secondary)

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. This degree is offered under Plans B or C (as defined on page 94), and requires a minimum of thirty credits.

This program is designed for secondary school mathematics teachers who wish to enhance their knowledge and skills for teaching mathematics. Applicants must have at least an undergraduate minor in mathematics appropriate for secondary school teaching. Students entering with a minor in mathematics must complete sufficient additional mathematics courses to obtain a major during the course of the program and also include at least six additional credits in mathematics. Applicants with secondary certificates must complete the following required courses: TED 7000 and ED 7999; twelve to fifteen credits in the major field, selected in consultation with an advisor; six credits in general professional courses (see page 94); and six to nine credits in mathematics or related courses.

## — with a Major in Early Childhood Education

This program enables students to qualify for a speciality area teaching endorsement in Early Childhood general and Special Education (ZS) endorsement while pursuing the degree. The program is designed for persons interested in working with young children and

their families. The focus of the curriculum is on the growth and development of the young child including the influence of family and society dynamics. Students also study the education of the young child including the theories, principles, development, and evaluation of 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 including those who have disabilities. Support systems for children and their families are examined to promote child development and learning. Experiences in preprimary and primary grade settings are required. Students without student teaching or on-the-job teaching at the pre-school level are assigned to the Wayne State University Early Childhood Center for a field placement as part of the program.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. This degree is offered under Plans A, B, or C (as defined on page 94), and requires a minimum of thirty credits. Required courses include: TED 7000 and ED 7999; ELE 6020; twelve credits in the major field, selected in consultation with an advisor; six credits in general professional courses (see page 94); and additional electives related to the student's professional goals.

## — with a Major in Reading

This program services graduates of bachelor's degree programs who wish to develop and/or strengthen their expertise in literacy instruction in preprimary through adult levels. This might include elementary and secondary teachers and those who work in college developmental, family literacy, adult basic education, GED, high school equivalency, or workplace literacy programs. This program provides a curriculum that qualifies certified teachers for the Michigan K-12 reading specialist endorsement in reading by the State of Michigan. Graduates of this program are primarily prepared for the roles of classroom teacher of reading and reading specialist.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. This degree is offered under Plan C (as defined on page 94), requiring a minimum of thirty-six credits in course work distributed as follows: RLL 7100, 7200, 7300, 7350, 7400, 7500; and ED 7999; six credits in general professional courses (see page 94); and six elective credits.

## — with a Major in Science Education

This program provides in-service elementary, middle school, and senior high school science teachers with opportunities for continuing growth in scholarship, performance, and research in science education. A forum is provided wherein teachers interact with each other in order to clarify and strengthen the bonds between theory and practice. The program emphasizes the implications of research for science curriculum design and classroom teaching. It includes among its goals an understanding of various teaching strategies and materials that promote inquiry, the impact of science and technology on people and their institutions, and the acquisition of insights into recent advances in science and technology. Applicants to this program must have a minimum of a minor in science. Program requirements include twelve-fifteen credits in science education, TED 7000 and ED 7999 and six credits in general professional courses. Additional science courses may be taken as electives.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. This degree is offered under Plans A, B, or C (as defined on page 94), requiring a minimum of thirty credits. Required courses include: TED 7000 and ED 7999; six credits in general professional courses (see page 94); a minimum of ten credits in science education courses selected in consultation with an advisor; and additional elective credits in a graduate field.

## — with a Major in Social Studies Education (Secondary)

The goals of this program reflect both content knowledge and pedagogical emphasis. Graduates acquire a strong theoretical/subject matter foundation which is applied to the school setting. Students will gain an understanding of the issues of social studies education, the nature of objectives, learning activities, curricular organization, and educational evaluation. Analytical skills will be developed through evaluation of the content and structure of social studies texts, materials, and resources.

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** see page 94. This degree is offered under Plans A, B, or C (as defined on page 94), requiring a minimum of thirty credits. Required courses include: SSE 6730, 7780, 8740; TED 7000 and ED 7999; six credits in general professional courses (see page 94); and elective courses selected in consultation with an advisor.

There is also a joint Master of Education in Social Studies Education and Master of Arts with a major in History degree program; see page 124.

## — with a Major in Special Education

Students must have an undergraduate grade point average of 2.75 in order to be admitted to this program. Students who have completed an elementary or secondary certificate and bachelor's degree requirements in non-special education areas and who wish to qualify for approval in an area of special education may take their initial preparation at the master's level.

Students who are certified teachers, approved in special education at the undergraduate level, may continue their preparation in other areas of specialization or increase their expertise in their current areas of endorsement.

Initial endorsement in the program for autism, the emotionally impaired, learning disabilities and cognitive impairment can be secured at the master's level. The curriculum prepares professionals as special education teachers in public schools, as teacher-consultants, and as educators for in-patient and out-patient clinical-hospitals.

The program prepares all future special educators for positions in various educational settings ranging from inclusive settings to self-contained facilities.

### Graduate advisors:

*Emotional Impairment:* Gregory Zvric

*Learning Disabilities:* Gerald R. Oglan, Gregory Zvric

*Cognitive Impairment:* Steven Illmer, Marshall Zumberg

*Autism Spectrum Disorders:* Mark Larson

**Admission Requirements:** see page 94.

**DEGREE REQUIREMENTS:** General degree requirements for Master of Education programs are presented on page 94. This degree program in special education is offered under Plans A, B, or C, as defined on page 94. Courses required for the various major concentrations available are as follows:

**Emotional Impairment:** A minimum of thirty-five credits is required for this concentration including SED 7770, 7820, 7830, 7800, and ED 7999. The general professional course requirements are EDA 7600, EER 7610, and EDP 5450 or 5480.

**Learning Disabilities:** A minimum of thirty-five credits is required for this concentration including SED 7760, 7770, 7790, 7800; 5260, 5140, 5600. The general professional course requirements are EDA 7600; EER 7610; and EDP 5450 or 5480, and ED 7999 is required as part of the elective credit allowance for this degree.

**Cognitive Impairment:** A minimum of thirty-six credits is required for this concentration. Course selection is determined in consultation with an advisor.

**Autism Spectrum Disorders:** A minimum of thirty-six credits is required for the concentration. Course selection is determined in consultation with an advisor.

## Joint Master of Education in Social Studies Education and Master of Arts with a major in History

Joint-degree programs are those in which electives are chosen from the reciprocal degree subject area. Students who enroll in the joint program will earn both the M.A. in History and the M.Ed. in Social Studies Education. Graduates may increase their job market potential by helping them achieve "highly qualified" status described under both The No Child Left Behind Act of 2001 and the HOSSE program. Additionally, graduates will be qualified for meeting the demand for teaching Advanced Placement courses and International Baccalaureate programs because of their increased background in the content area. Applicants to this fifty-two credit program must be admitted to both the Master of Education program in Social Studies Education and to the Master of Arts program in History and must hold a teaching certificate in secondary education. A brochure more fully describing the joint degree program in social studies and history is available from College of Education or the Department of History.

## Education Specialist Certificate

The Teacher Education Division offers a number of education specialist programs at the elementary and secondary levels. These certificate programs are designed to strengthen the educational background of teachers, administrators, and other education professionals.

**Admission Requirements:** see page 95.

**CERTIFICATE REQUIREMENTS:** These certificate programs require thirty credits beyond the master's degree. The individual student's professional needs and interests are taken into account in determining the specific content of his/her program. The typical plan includes course work in the specialized professional area and subject matter areas supportive of a major or minor. All course requirements for the various majors are selected in consultation with an advisor.

## Visual Arts Education Specialist (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Visual Arts Education Specialist leads to an endorsement to the Michigan teaching certificate in Visual Arts Education Specialist (K-12). The purpose of the certificate is to develop ways to integrate the most recent research in this area of teaching, and to provide a deeper understanding and enhancement of the learner's skills and cognitive capacities in the area of Visual Arts Education.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Art Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate with an endorsement in Visual Arts Education.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Visual Arts Education Specialist requires a minimum of twenty-four credits listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning

on pages 36 and 94, respectively.

**REQUIRED COURSES:** (24 credits)

- AED 5890 -- Art of Indigenous Cultures: Cr. 3
- AED 7400 -- Art Trends: Cr. 3
- AED 7500 -- Multicultural Issues in Art Ed. and Art Therapy: Cr. 3
- AED 7700 -- Advanced Problems in Printmaking: Cr. 3
- AED 7700 -- Advanced Problems in Painting: Cr. 3
- AED 7700 -- Adv. Problems in Collage, Assemblage, & Mixed-Media: Cr. 3
- AED 7700 -- Advanced Problems in Sculpture: Cr. 3
- AED 6230 -- Ceramics Education II: Methods and Materials: Cr. 3

## Bilingual Education (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Bilingual Education leads to an endorsement to the Michigan teaching certificate in Bilingual Education. Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area exam will earn the endorsement. As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Bilingual-Bicultural Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate and must have successfully completed the American Council on the Teaching of Foreign Languages' (ACTFL's) Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) in the (non-English) designated language. Contact an adviser for authorization to take the OPI and WPT. For more information, please review the following website: <http://www.testing.wayne.edu/>

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Bilingual Education requires a minimum of twenty-one credits as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (21 credits)

- BBE 5500 -- Introduction to Bilingual/Bicultural Education: Cr. 3
- BBE 6560 -- Teaching Methods in Bilingual /Bicultural Education: Cr. 3
- BBE 6850 -- Applied Linguistics: Issues in Bilingual Education: Cr. 3 OR
- LIN 5730 -- English Grammar (ENG 5730): Cr. 3
- LED 6520 -- Teaching ESL/EFL Methods I: Cr. 3
- BBE 6590 or LIN 5310 or LIN 5770
  - Culture and Language in Bilingual/Bicultural Education: Cr. 3
  - Language and Culture (ANT 5310): Cr. 3
  - Sociolinguistics (ENG 5770): Cr. 3
- LED 6555 -- Integration of Language and Content in Language Teaching: Cr. 1
- BBE 6600 -- Practicum in a Bilingual/ESL Classroom: Cr. 2
- RLL 6700 -- Second Language Literacy Development K-12: Cr. 3

## Career and Technical Education (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Career and Technical Education leads to completion of courses required for vocational certification in Michigan: Interim Occupational Certificate (IOC). Candidates must meet additional requirements in the vocational area for the IOC. Please review the following website for further information: <http://coe.wayne.edu/ted/career-tech/certificate/interim-occupational.php>

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Career and Technical Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Career and Technical Education requires a minimum of twelve credits for individuals with other special education endorsements or a minimum of thirty credits for individuals with no previous special education endorsements. Required courses are as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**CORE COURSES** (6 credits)

- CTE 5410 -- Teaching Meth. for the Career and Technical Ed. Classroom I: Cr. 3
- CTE 6993 -- Teaching Meth. for the Career and Technical Ed. Classroom II: Cr. 3

**ELECTIVE COURSES:** Select two of the following (6 credits)

- CTE 6010 -- History and Principles of Career and Technical Education: Cr. 3
- CTE 7820 -- Planning and Organizing Instruction in Career & Technical Ed.: Cr. 3
- CTE 8998 -- Current Issues and Trends: Cr. 3
- CTE 6999 -- Coordination of Cooperative Occupational Education: Cr. 3
- CTE 6110 -- Fundamentals for the Teacher Cadet Classroom I: Cr. 3
- CTE 6120 -- Fundamentals for the Teacher Cadet Classroom II: Cr. 3

## Elementary Education (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Elementary Education leads to an endorsement to the Michigan Secondary Teaching Certificate in General Elementary Education. Students who complete the Planned Program, this Bridge Certificate Program and the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement. (For some students there may be additional undergraduate level courses required for completion of the Elementary Education Planned Program.)

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Elementary Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Elementary Education requires a minimum of fifteen to twenty-four credits. Prior undergraduate course work may apply to an endorsement in Elementary Education. An evaluation of the student's transcripts by the adviser will determine the courses on the plan of work, which can be as few as fifteen credits, or as many as twenty-four, as required by the Michigan Department of Education. Required courses are as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (15 - 24 credits)

- ELE 6290 -- Language Arts Instruction: Preprimary-8: Cr. 3
- ELE 6390 -- Mathematics Instruction: Preprimary-8: Cr. 3
- ELE 6500 -- Science Curriculum: Preprimary-8: Cr. 3
- ELE 6600 -- Teaching Social Studies: PreK-8: Cr. 3
- ELE 6200 or RLL 7720 or 7740
  - Children's Literature for New and Prospective Teachers: Cr. 3
  - Survey and Analysis of Current Lit. for Children: PS-Grade 3: Cr. 3
  - Survey and Analysis of Current Lit. for Older Children: Grades 4-8: Cr. 3
- ELE 6310 -- Reading Instruction: Preprimary-8: Cr. 3 OR
- ELE 6340 -- Teaching Reading in Early Childhood Education: Cr. 3
- RLL 4430 or RLL 6120

- Teaching Reading II: Comprehension Preprimary-8: Cr. 3
- Developmental Reading I: Comprehension Preprimary-8: Cr. 3
- EDP 5450 -- Child Psychology: Cr. 3 OR
- EDP 6210 -- Foundations of Educational Psychology: Cr. 3

## English as a Second Language (Bridge Graduate Certificate)

The Bridge Graduate Certificate in English as a Second Language leads to an endorsement to the Michigan teaching certificate in English as a Second Language. Students must demonstrate English language fluency and foreign language learning experience to be eligible for the endorsement. Students who meet these requirements, complete the Bridge Certificate Program and the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Bilingual-Bicultural Education and a concentration in English as a Second Language if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in English as a Second Language requires a minimum of twenty-one credits as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

### REQUIRED COURSES: (21 credits)

- BBE 6600 -- Practicum in a Bilingual/ESL Classroom: Cr. 2
- B E 6850 or LIN 5730
  - Applied Linguistics: Issues in Bilingual Education: Cr. 3
  - English Grammar (ENG 5730): Cr. 3
- LED 6510 or 5750
  - Second Language Acquisition and the Teaching of Grammar: Cr. 3
  - Theories of Second Language Acquisition (ENG 5750): Cr. 3
- LED 6520 -- Teaching ESL/EFL Methods I: Cr. 3
- LED 6555 -- Integration of Language and Content in Language Teaching: Cr. 1
- LED 6565 -- Assessment in Language Teaching: Cr. 3
- LED 6580 or LIN 5310 or LIN 5770
  - Culture as the Basis for Language Teaching: Cr. 3
  - Language and Culture (ANT 5310): Cr. 3
  - Sociolinguistics (ENG 5770): Cr. 3
- RLL 6700 -- Second Language Literacy Development K-12: Cr. 3

## Reading Specialist, K-12 (Bridge Graduate Certificate)

The Bridge Graduate Certificate for a K-12 Reading Specialist is designed for graduates of bachelor's degree programs who wish to develop and/or strengthen their expertise in literacy instruction in preprimary through adult levels. It is especially appropriate for those who wish to expand their roles to include classroom teaching of reading and qualifications as a reading specialist. Certified teachers who complete the Bridge Certificate Program and the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement to the Michigan Teaching Certificate as a Reading Specialist (K-12).

As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Reading if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in K-12 Reading requires a minimum of twenty-four credits as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

### REQUIRED COURSES (24 credits)

- RLL 7100 -- Emergent Literacy: Cr. 3
- RLL 7200 -- Comprehension: Cr. 3; Prereq: RLL 7100.
- RLL 7300 -- Literacy Across the Curriculum: Cr. 3; Prereq: RLL 7100, 7200.
- RLL 7350 -- Organization and Supervision of Literacy Programs: Cr. 3; Prereq: RLL 7100, 7200.
- RLL 7400 -- Practicum and Seminar in Evaluation and Instruction: Cr. 6; Prereq: RLL 7100, 7200.
- RLL 7500 -- Theoretical Foundations for Literacy: Cr. 3 Prereq: RLL 7100, 7200.
- RLL 7720 or RLL 7740 or EED 6310
  - Survey and Analysis of Current Lit. for Children: PS-Grade 3: Cr. 3
  - Survey and Analysis of Lit. for Older Children: Grades 4-8: Cr. 3
  - Young Adult Literature: Cr. 3

## Autism Spectrum Disorders (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Autism Spectrum Disorders (ASD) leads to an endorsement to the Michigan Teaching Certificate in Autism Spectrum Disorders (K-12). Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement. Teachers with this endorsement work in different settings (e.g., home, school, community) with children, youth, and adults who have ASD.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Special Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in ASD requires a minimum of twenty credits for individuals with other special education endorsements or a minimum of thirty credits for individuals with no previous special education endorsements. Required courses are as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

### REQUIRED COURSES: (20 - 30 credits)

- SED 5030 -- Education of Exceptional Children: Cr. 3
- SED 6021 -- Introduction to Autism Spectrum Disorders: Cr. 3
- SED 6050 -- Language, Communication, Development, & Interventions: Cr. 3
- SED 6030 -- Autism Spectrum Disorders (ASD): Educational Interventions: Cr. 3
- SED 5140 -- Behavior Management: Positive Behavior Support: Cr. 3
- SED 5090 -- Special Ed. & Transition Services for Students with Disabilities: Cr. 3
- SED 5600 or ELE 6010
  - Collaborative Support for Ed. of Students with Special Needs: Cr. 3
  - Family Centered Collaboration in Early Intervention & Special Ed.: Cr. 3
- SED 7030 or SED 7770
  - Dynamic Assessment in Early Childhood Special Education: Cr. 3
  - Assessment and Evaluation of Students with Special Needs: Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part I): Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part II): Cr. 3

## Cognitive Impairment (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Cognitive Impairment (CI) leads to an endorsement to the Michigan Teaching Certificate in Cognitive Impairment (K-12). Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area exam will earn the endorsement. Teachers with this endorsement work in different settings (e.g., home, school, community) with children, youth, and adults who have CI.

As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Special Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in CI requires a minimum of twenty credits for individuals with other special education endorsements or a minimum thirty-three credits for individuals with no previous special education endorsements. Required courses are as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (20 - 33 credits)

- SED 5030 -- Education of Exceptional Children: Cr. 3
- SED 5040 -- Language Acquisition & Educational Interventions for Students with Moderate to Severe Impairment: Cr. 3
- SED 5260 -- Effective Strategies for Exceptional Learners: Cr. 3
- SED 5110 -- Mental Impairment & the Cognitive Process: Cr. 3
- SED 5140 -- Behavior Management: Positive Behavior Support: Cr. 3
- SED 5090 -- Special Ed. & Transition Services for Students with Disabilities: Cr. 3
- SED 5600 -- Collaborative Support for Ed. of Students with Special Needs: Cr. 3
- SED 5130 -- Curriculum Development: Cognitive Impairment: Cr. 3
- SED 5060 or SED 7770
  - Developing Observation & Assessment Skills: Laboratory/Seminar: Cr. 3
  - Assessment and Evaluation of Students With Special Needs: Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part I): Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part II): Cr. 3

## Emotional Impairment (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Emotional Impairment (EI) leads to an endorsement to the Michigan teaching certificate in Emotional Impairment (K-12). Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement. Teachers with this endorsement work in different settings (e.g., home, school, community) children, youth, and adults who have EI.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Special Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in EI requires a minimum of twenty credits for individuals with other special education endorsements or a minimum of thirty credits for individuals with no previous special education endorsements. Required courses are as listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

dance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (20 - 30 credits)

- SED 5030 -- Education of Exceptional Children: Cr. 3
- SED 7820 -- Emotional & Behavioral Problems in Children & Adolescents: Cr. 3
- SED 7830 -- Promoting Pro-social Behavior & Resilience: Cr. 3
- SED 5260 -- Effective Strategies for Exceptional Learners: Cr. 3
- SED 5140 -- Behavior Management: Positive Behavior Support (3)
- SED 5090 -- Special Ed. & Transition Services for Students with Disabilities: Cr. 3
- SED 5600 -- Collaborative Support for Ed. of Students with Special Needs: Cr. 3
- SED 7770 -- Assessment and Evaluation of Students with Special Needs: Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part I): Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part II): Cr. 3

## Learning Disabilities (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Learning Disabilities (LD) leads to an endorsement to the Michigan Teaching Certificate in Learning Disabilities (K-12). Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement. Teachers with this endorsement work in different settings (e.g., home, school, community) with children, youth, and adults who have LD.

As a bridge program this Graduate Certificate allows students to apply all of their course work for the Certificate to the Master of Education degree with a major in Special Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in LD requires a minimum of twenty credits for individuals with other special education endorsements or a minimum of thirty credits for individuals with no previous special education endorsements. Required courses are listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (20 - 30 credits)

- SED 5030 -- Education of Exceptional Children: Cr. 3
- SED 7760 -- Teaching Students with Learning Disabilities K-12: Cr. 3
- SED 7790 -- Language Basis of Learning Disabilities: Cr. 3
- SED 5260 -- Effective Strategies for Exceptional Learners: Cr. 3
- SED 5140 -- Behavior Management: Positive Behavior Support: Cr. 3
- SED 5090 -- Special Ed. & Transition Services for Students with Disabilities: Cr. 3
- SED 5600 -- Collaborative Support for Ed. of Students with Special Needs: Cr. 3
- SED 7770 -- Assessment and Evaluation of Students with Special Needs: Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part I): Cr. 3
- SED 7800 -- Practicum/Internship in Special Education (Part II): Cr. 3

## Early Childhood General and Special Education (Bridge Graduate Certificate)

The Bridge Graduate Certificate in Early Childhood General and Special Education leads to an endorsement to the Michigan Elementary Teaching Certificate in Early Childhood General and Special Education. Students who complete this Bridge Certificate Program as well as the appropriate Michigan Test for Teacher Certification subject area examination will earn the endorsement. Teachers with this endorsement work with young children, birth-to 8 years old (3rd grade), including those who have developmental delays or disabilities.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Education degree with a major in Special Education if they decide to pursue that degree after completing the Certificate.

**Admission** to this program is contingent upon admission to the Graduate School and the Division; for requirements, see pages 18 and 107. Additionally, applicants must possess a valid Michigan teaching certificate.

**CERTIFICATE REQUIREMENTS:** The Bridge Certificate in Early Childhood General and Special Education requires a minimum of twelve to twenty-six credits. Prior undergraduate course work may apply to an endorsement in Early Childhood General and Special Education. An evaluation of the student's transcripts by the adviser will determine the courses on the plan of work, which can be as few as twelve credits, or as many as twenty-six, as required by the Michigan Department of Education. Required courses areas listed below. All course work must be completed in accordance with the regulations of the Graduate School and the College of Education governing graduate scholarship and degrees; see sections beginning on pages 36 and 94, respectively.

**REQUIRED COURSES:** (12 - 26 credits)

- EDP 5450 -- Child Psychology: Cr. 2
- ELE 6010 or ELE 6060
  - Family Centered Collaboration in Early Intervention & special Ed.: Cr. 3
  - Community Contacts: Working With Families in Urban Settings: Cr. 3
- ELE 6020 -- Seminar in Early Childhood: Cr. 3
- ELE 6030 -- Assessment of Young Children in Educational Settings: Cr. 3 OR
- SED 7030 -- Dynamic Assessment in Early Childhood Special Education: Cr. 3
- ELE 6090 -- Introduction to Infant Mental Health: Cr. 3
- ELE 6100 -- Planning and Implementing Preschool Curriculum: Cr. 3
- ELE 6340 -- Teaching Reading in early Childhood: Cr. 3
- ELE 7020 -- Issues in Early Childhood Education: Cr. 3
- SED 6040 -- Introduction to Early Childhood Special Education: Cr. 3

## Doctoral Degrees (Ph.D and Ed.D)

The Doctor of Education (Ed.D) and the Doctor of Philosophy (Ph.D) programs prepare professional educators for positions in institutions of higher learning, education renewal centers, state and national education agencies, and intermediate and local school districts. Advanced programs are designed for those individuals who are committed to the educational renewal of urban America; whose career goals emphasize the development and improvement of curriculum and instruction; who desire to prepare themselves for leadership roles in pre-service and in-service teacher education; and who will serve as agents of change, creating and expanding the varied institutions and programs needed for the continuing education of teachers. This program also serves those interested in the educational aspects of business and industry, health and social services, and other areas that require expertise in curriculum and instruction.

Based on pure and applied research in instruction and curriculum, doctoral study incorporates formal classroom instruction, independent study, and direct, clinical experience in a variety of field settings. It reflects 1) the legitimacy of the emerging pattern of inter-institutional partnerships in teacher education at all levels; 2) the significance of the diverse nature of the metropolitan society; and 3) the importance of the integration of theory, research, and practice as the basis for sound professional development.

Admission to certain majors and concentrations in the doctoral program may be limited by the availability of faculty advisors. Prior to applying, students should consult with an advisor in 489 Education to discuss current admission limitations.

**Admission Requirements:** see page 95.

**DEGREE REQUIREMENTS:** see page 96. Courses in the field of concentration in each program are selected in consultation with an advisor to develop a Plan of Work. All students in content-specific

concentrations under the major of Curriculum and Instruction are required to complete TED 8130 and 8280; TED 9130 is recommended but not required.

The K-12 curriculum area of emphasis, within the curriculum and instruction program, requires the following courses in the major area: TED 8130, 8270, 8280, and 9130.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652. The department reserves the right to offer or cancel courses based on enrollment.

## TEACHER EDUCATION DIVISION (TED)

### 5150 Analysis of Elementary School Teaching. Cr. 3-6

Prereq: admission to College of Education; all students must have a LiveText account; registration form and fee information can be found at <https://www.livetext.com/misk5/c1/purchase>. Mandatory orientation is held prior to beginning of each semester; refer to Schedule of Classes for date, time and location. 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. (F,W)

### 5160 (WI) Analysis of Middle and Secondary School Teaching. Cr. 3

Prereq: admission to College of Education; coreq: TED 5650. All students must have a LiveText account; registration form and fee information can be found at <https://www.livetext.com/misk5/c1/purchase>. Mandatory orientation is held prior to beginning of each semester; refer to Schedule of Classes for date, time and location. Overview of structure, function and purposes of middle and secondary school education. Development and analysis of instructional objectives. Organization and management of classrooms. Teaching strategies and assessment of learning. Exploration and utilization of resources in the community. (F)

### 5250 Teaching the Emerging Adolescent in Middle Level Education. Cr. 3

Prereq: admission to College of Education. Opportunities to examine best practices, curriculum and strategies of middle level education. (I)

### 5650 Pre-Student Teaching Field Experience for Secondary Majors. Cr. 3-5

Prereq: admission to College of Education; coreq: TED 5160. All students must have a LiveText account; registration form and fee information can be found at <https://www.livetext.com/misk5/c1/purchase>. Mandatory orientation is held prior to beginning of each semester; refer to Schedule of Classes for date, time and location. Offered for S and U grades only. Field experience in secondary school settings prior to full-time student teaching. (F,W)

### 5780 Directed Teaching and Conference. Cr. 1-12

Offered for S and U grades only. Prereq: admission to College of Education. All students must have a LiveText account; registration form and fee information can be found at <https://www.livetext.com/misk5/c1/purchase>. Mandatory orientation is held prior to beginning



of each semester; refer to Schedule of Classes for date, time and location. 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. (F,W)

**5790 Directed Teaching and Conference for Special Groups. Cr. 1-15 (Max. 15)**

Prereq: admission to College of Education; admission to student teaching. Offered for S and U grades only. All students must have a LiveText account; registration form and fee information can be found at <https://www.livetext.com/misk5/c1/purchase>. Mandatory orientation is held prior to beginning of each semester; refer to Schedule of Classes for date, time and location. 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. (F,W)

**5810 (DNC 5810) 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. (F)

**5820 (DNC 5820) Creative Movement for the Pre-School Child I. Cr. 3**

Creative dance activities; manipulative, musical, imaginative and kinesthetic approaches to movement. (F,W)

**5830 (DNC 5830) Field Work in Creative Dance. Cr. 2-8**

Prereq: DNC 5830 or consent of instructor. Supervised professional study in field settings. (T)

**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. (T)

**6030 Computer Applications in Teaching II. Cr. 3**

Prereq: TED 6020 or equiv. Use of computing resources to develop problem-solving strategies and multimedia applications for students in specific K-12 curriculum areas. (F,W)

**6040 Concepts in Educational Technology. Cr. 3**

Prereq: TED 6020. Opportunities to develop proficient skills relevant to effective integration of current educational technologies. (T)

**6140 Local School Curriculum Planning. Cr. 1-6 (Max. 12)**

For classroom teachers and teacher educators. Consideration of local problems in elementary and secondary school programs. Planning for better teaching and learning. (I)

**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. (S)

**6370 Equity and Inclusion in Diverse Urban Education Settings. Cr. 4**

Clinical based course, using inclusive instructional practices for all students including, but limited to, students with disabilities, English Language Learners, and special populations such as: at-risk, and gifted and talented in inclusive urban settings. (F)

**7000 Introductory Master's Seminar. Cr. 2-3**

Prereq: admission to a master's degree program in Teacher Education Division. 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. (F,W)

**7010 Field Study in Computer Applications in Teaching. Cr. 2-12 (Max. 12)**

Supervised professional study in field settings; development, implementation and evaluation of computer-based instructional materials. (I)

**7800 Practicum in Curriculum Theory, Development, and Evaluation. Cr. 1-5 (Max. 5)**

Offered for S and U grades only. Specific curriculum issues; linking theory and practice in educational settings. (T)

**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. (F)

**8130 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. (S)

**8270 Seminar: Issues in Curriculum and Instruction. Cr. 2-6 (Max. 8)**

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. (F)

**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. (W)

**9130 Doctoral Seminar in Curriculum and Instruction. Cr. 3**

Prereq: formal admission to a doctoral program in education. An examination of curriculum theory and concepts that apply to the development of content and instructional strategies relevant to contemporary education. (T)

**9620 Doctoral Internship in Curriculum and Instruction. Cr. 3-6 (Max. 6)**

Prereq: admission to doctoral program, completion of two doctoral seminars, minimum 18 credits in course work in the major, nine credits in required research course work, and six credits in cognate course work. Offered for S and U grades only. Planned and supervised professional field-based experience relevant to doctoral program and projected profession. (T)

## ART EDUCATION (AED)

**5000 Introduction to Art Education. Cr. 3**

Prereq: admission to College of Education. 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. Material Fee As Indicated In The Schedule of Classes (Y)

**5020 Painting: Methods and Materials. Cr. 3 (Max. 9)**

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. Material Fee As Indicated In The Schedule of Classes (F)

**5050 (VP) Integrating the Arts into the Elementary Classroom.**

**Cr. 3**

Introductory course: integration of visual arts, music, dance, and theatre into the teaching, learning and curriculum of the elementary classroom. Material Fee As Indicated In The Schedule of Classes (F,W)

**5070 Methods and Materials of Sculptural Expression. Cr. 3**

Required for certification in art education and prior to student teaching. 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. Material Fee As Indicated In The Schedule of Classes (Y)

**5100 Topics in Art Education. Cr. 1-3 (Max. 9)**

Prereq: admission to College of Education. Art experiences designed for the specific needs of special groups. Topics to be announced in Schedule of Classes . Material Fee As Indicated In The Schedule of Classes (I)

**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. (Y)

**5160 Theory and Practice in Art Education. Cr. 3 (Max. 9)**

Prereq: admission to College of Education; AED 5650; prereq. or coreq: student teaching. Development and analysis of instructional objectives in art education; organization and management of art classrooms; teaching strategies and assessment practices. (W)

**5170 Fibers: Methods and Materials. Cr. 3 (Max. 9)**

Comprehensive exploration of fiber-fabric art forms: applique, trapunto, stitchery, dyeing, soft sculpture, weaving, wrapping, hooking, and others. Student learns basic techniques and selects several areas for in-depth study. Safety, special tools, materials, techniques and resources for teaching. For both beginning and advanced students; individual creative self-direction is essential for advanced study. Material Fee As Indicated In The Schedule of Classes (F)

**5190 Light, Sound, Space and Motion. Cr. 3 (Max. 9)**

Laboratory experiences in planning and producing animated films, instructional video, and slide/sound presentations. Students prepare storyboards, write scripts, prepare titles and credits, mark on film and slides, produce Super-8 animation, use 35mm camera on a copy stand, edit, splice film, record and synchronize sound tracks, and produce single-camera instructional video. Methods and materials for teaching film and video in schools, producing video aids, or producing film/slides/video for artistic expression. Material Fee As Indicated In The Schedule of Classes (W)

**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. Material Fee As Indicated In The Schedule of Classes (Y)

**5280 Printmaking: Methods and Materials Cr. 3 (Max. 9)**

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. Material Fee As Indicated In The Schedule of Classes (W)

**5360 Wood, Metal and Plastic: Methods and Materials. Cr. 2-3 (Max. 9)**

Planning and production in wood, metal and plastic using power and hand tools. Processes suitable for production of adaptive devices or therapeutic activity. Materials and methods appropriate for schools.

Work in a shop setting using power saws, torches, kiln, wood lathe, and a variety of hand tools. Material Fee As Indicated In The Schedule of Classes (W,S)

**5650 Art Teaching Laboratory. Cr. 3**

Prereq: admission to College of Education; AED 5000. Laboratory experience in teaching art to elementary, middle, and high school students. (F)

**5690 Collage, Assemblage, and Multi-Media: Methods and Materials. Cr. 3**

Prereq: A H 1110, A H 1120, ADR 1050, ADR 1060, ADE 1200, ADE 1210 or ADE 1230, ADR 2070, APA 2100, ASL 2150; undergrad. students must be Level II in College. 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. Material Fee As Indicated In The Schedule of Classes (W)

**5790 Applied Design in Visual Arts Education. Cr. 3**

Prereq: ADR 1050, ADR 1060, ADE 1200, ADE 1210 or ADE 1230, ASL 2150, A H 1110, A H 1120; undergraduate students must be Level II in College. Integration of design history, design theories, and design practices. Background and experience for the art educator to create a curriculum based on the critical and creative thinking required in the design professions, such as architecture. Material Fee As Indicated In The Schedule of Classes (F,S)

**5890 The Art of Indigenous Cultures: Inclusion in the K-12 Curriculum. Cr. 3**

Prereq: A H 1110, A H 1120, ADE 1200; and ADE 1210 or ADE 1230; undergrad. students must be Level II, College of Education. 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. (W,S)

**6120 Art for Special Groups: Animation. Cr. 1-3 (Max. 9)**

Prereq: AED 5190. Planning and production of video and 16mm animation films. Various techniques: cell, pixilation, cutout, claymation, etch, drawing, video, kinestasis, light box, stop motion, computer. History and trends. Material Fee As Indicated In The Schedule of Classes (Y)

**6150 Instructional Applications of Computer Graphics. Cr. 3**

Instruction and laboratory experiences in the design, production, and application of computer graphics in the classroom and other educational settings. Programming experiences in animation, charts and graphs, and simple drawing techniques. Material Fee As Indicated In The Schedule of Classes (T)

**6220 Drawing and Watercolor: Field Studies. Cr. 3 (Max. 9)**

For beginning and advanced students' growth and development in watercolor techniques and the painting process. Field trip/work sessions at rural and urban sites to develop visual awareness and ability to select visual information for image formation. Slide lectures, demonstrations, critiques, discussions, individual assistance, analysis of the two-dimensional art process and study of unique approaches to teaching watercolor. Material Fee As Indicated In The Schedule of Classes (S)

**6230 Ceramics Education II. Cr. 3 (Max. 9)**

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. Material Fee As Indicated In The Schedule of Classes (Y)

**6250 Aspects of Ceramics. Cr. 3-9 (Max. 9)**

Various aspects of ceramics chosen to develop the students' understanding of the potential for ceramic education. Topics to be announced in Schedule of Classes . Material Fee As Indicated In The Schedule of Classes (I)

**6300 Explorations in Art Therapy. Cr. 3**

Provides non-majors with introduction to art therapy, its history and development, and major approaches. (Y)

**6320 Art Therapy: Introduction and Ethics. Cr. 3**

Introduction to and ethics of art therapy practice. Material Fee as given in Schedule of Classes. (Y)

**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. (Y)

**6360 Aspects of Art Therapy. Cr. 1-12 (Max. 12)**

Aspects of the use of art therapy chosen to develop students' breadth or depth in art therapy practice with various groups and settings. (Y)

**7230 Advanced Ceramics Education. Cr. 3 (Max.9)**

Ceramic procedures on an advanced level. Emphasis on individual development and specific approaches to teaching. Students will choose areas of concentration relevant to their own situation. Material Fee As Indicated In The Schedule of Classes (Y)

**7300 Studio Art Therapy. Cr. 3**

Open only to Art Therapy majors. Prereq: AED 6320, AED 6340. Students focus on studio art in the development of art experientials to address various client needs. Material Fee as given in Schedule of Classes. (Y)

**7310 Art Therapy with Groups. Cr. 3**

Prereq: AED 6320, AED 6340, AED 7300. Therapeutic factors of groups; facilitation of art therapy groups. Material Fee as given in Schedule of Classes. (W)

**7320 Art Therapy with the Emotionally Impaired. Cr. 3**

In-depth presentation of theory and practice of art therapy with persons who are emotionally impaired. Particular attention to the use of art therapy in a clinical setting. Material Fee As Indicated In The Schedule of Classes (Y)

**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. (B)

**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. (Y)

**7380 (CED 7150) Counseling Practicum. (RCI 7430) Cr. 4**

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. (Y)

**7400 Art Trends and Art Education. Cr. 3 (Max. 9)**

Slide lectures and discussions; trends and aspects of art history; roles of art and artists within a technical society and new art criteria of that society; application of new information and speculative ideas to the art curriculum; Verbal-visual projects to extend learning and experience within art education research component. (F)

**7500 Multicultural Issues in Art Education/Art Therapy. Cr. 3**

Study of multicultural and pluralistic issues. (Y)

**7700 Advanced Graduate Problems. Cr. 3-12 (Max. 12)**

Pursuit of specific problems in depth. Laboratory hours coordinated with regularly scheduled classes in the selected area. Material Fee As Indicated In The Schedule of Classes (T)

**7880 Practicum in Art Therapy. Cr. 3-6 (Max. 6)**

Supervised internship in which students complete 300 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. (Y)

**7890 Art Therapy Internship. (RCI 7460) Cr. 1-6 (Max. 6)**

Supervised advanced internship of 300 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. (B)

## 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. (T)

**5020 Effective Involvement of Parents in School and Community. Cr. 3**

Concepts of parenting and parent intervention. Determination of methods to maximize parent participation in the educational process of bilingual/bicultural students. (W)

**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. (F)

**5530 The Socio-Psychological Needs of Ethnocultural Communities. Cr. 3**

Assessments of issues of concern to ethnocultural communities as a background for social services delivery and intervention. (F)

**5550 Urban Education. Cr. 3**

Language program implementation within the urban culture of the school, community, and state. (I)

**6560 Teaching Methods in Bilingual/Bicultural Education. Cr. 3**

Prereq: admission to a bilingual endorsement program. Utilization of traditional and innovative materials, techniques and methods in teaching elementary and secondary school subjects in a bilingual education program. (F)

**6590 Culture and Language in Bilingual/Bicultural Education. Cr. 1-3**

Research and application of multicuture activities for designing processes to bring language and culture, and instruction in English, into the classroom. (I)

**6600 Internship in Bilingual/Bicultural Teaching. Cr. 2-12 (Max. 12)**

Offered for S and U grades only. Internship in a bilingual, multicultural setting; assessment of the cultural, educational, and linguistic needs of students of limited English-speaking ability. (T)

**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. (W)

**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. (W)

**9010 Theoretical Implications of Bilingual/Bicultural Education. Cr. 3**

Theoretical foundations for the development of bilingual/bicultural and multicultural education programs in our schools. (I)

**9030 Advanced Seminar in Bilingual/Bicultural Education.**

**Cr. 2-4 (Max. 12)**

Advanced seminar for doctoral students in the bilingual, multicultural education program. Topics to be announced in Schedule of Classes . (I)

## CAREER and TECHNICAL EDUCATION (CTE)

### 5410 Teaching Methods for the Career and Technical Education Classroom I. Cr. 3

Strategies and materials for the teaching of career/technical education subjects in a competency-based education setting. Teaching techniques, basic assessment, and evaluation as well as community and technological influences on teaching. (W)

### 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. (Y)

### 6110 Fundamentals for the Teacher Cadet Classroom I. Cr. 3

Prereq: secondary teaching certification or occupational certification. Review of history of the discipline and related curriculum trends; how social and cultural changes affect education; basic concepts of human growth. (T)

### 6120 Fundamentals for the Teacher Cadet Classroom II. Cr. 3

Prereq: secondary teaching certification and occupational certification. Teacher Cadet instructors reflect upon various aspects of teaching in preparation to instruct secondary students enrolled in Teacher Cadet program. (T)

### 6993 Teaching Methods for the Career and Technical Education Classroom II. Cr. 3

Special workshops and short term seminars in career and technical education subjects. (F,S)

### 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. (F)

### 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. (F)

### 8998 Current Issues and Trends. Cr. 3 (Max. 6, M.Ed. and M.A.T.; max. 9, other advanced degree programs)

Place, function, and evolving concepts of career and technical education. Economic, sociological, psychological, and technical factors. (W,S)

## ELEMENTARY EDUCATION (ELE)

### 6010 (ELE 6010) Family Centered Collaboration in Early Childhood Intervention and Special Education. (O T 6150)

### (PSY 6010) (S W 6010) Cr. 3-4

Prereq: Level 2 admission to College of Education. 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. (F)

### 6020 Seminar in Early Childhood. Cr. 3

Prereq: Level 2 admission to College of Education. 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. (Y)

### 6030 Assessment of Young Children in Educational Settings. Cr. 3

Prereq: Level 2 admission to College of Education. Strategies for authentic assessments of young children in school and family educational settings. (Y)

### 6040 Role of Content Areas in Early Childhood Education. Cr. 2-8 (Max. 8)

Prereq: Level 2 admission to College of Education. 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 . (S)

### 6060 Community Contacts: Working with Families in Urban Settings. Cr. 3

Prereq: Level 2 admission to College of Education. Programs and services within the community that assist families in improving educational services for the child. (Y)

### 6070 Family, Community and School Partnerships: Supporting Children's Learning. Cr. 3

Prereq: Level 2 admission to College of Education. 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. (Y)

### 6080 Preprimary Goals and Practices. Cr. 3

Prereq: Level 2 admission to College of Education; coreq: TED 5790 or ED 5998. Topics related to development and learning of preschool child, role of teacher as facilitator, impact of family and community. (F,W)

### 6090 Introduction to Infant Mental Health Theory and Practice. Cr. 3

Prereq: Level 2 admission to College of Education. 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. (Y)

### 6100 Planning and Implementing Preschool Curriculum. Cr. 3

Prereq: Level 2 admission to College of Education. Planning, implementing, and evaluating all aspects of preschool curriculum: activities, routines, and working with staff and parents. (I)

### 6200 Children's Literature for New and Prospective Teachers. Cr. 3

Prereq: admission to MAT program or Limited License to Instruct program. 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. (T)

### 6290 Language Arts Instruction: Preprimary-8. Cr. 3

Prereq: admission to MAT degree program. Relates theory and research 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. (F,W)

**6300 Language Arts Curriculum: Preprimary-8. Cr. 3**

Prereq: admission to teacher certification program. Content of language arts programs. Objectives, procedures, materials, and organizational patterns. (T)

**6310 Developmental Reading: Preprimary-8. Cr. 3**

Prereq: admission to College of Education. Theoretical foundations for literacy, development of beginning reading and writing, and teaching strategies and materials. Evaluating literacy ability through formal and informal measures. Attention to multiculturalism, special needs, and English language learners. (F,W)

**6320 Reading Curriculum: Preprimary-8. Cr. 3**

The reading process; procedure, materials and organizational patterns used when teaching reading. (T)

**6340 Teaching Reading in Early Childhood Education. Cr. 3**

Prereq: Level 2 admission to College of Education. Rationale for teaching reading and various reading skills to young children. Materials and methods for initial reading instruction. (Y)

**6390 Mathematics Instruction: Preprimary-8. Cr. 3**

Prereq: admission to MAT degree program. Developing mathematics skills in elementary and middle schools. Students plan, implement and evaluate learning experience with children under professional guidance. (F,W)

**6500 Science Curriculum: Preprimary-8. Cr. 3**

Prereq: admission to teacher certification program. 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. Material Fee As Indicated In The Schedule of Classes (T)

**6600 Teaching Social Studies: PreK-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. (T)

**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. (I)

**7020 Issues in Early Childhood Education. Cr. 3**

Current issues in early childhood care and education including theories, research, best practice, and historical philosophies. (Y)

**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. (Y)

**7840 Educating Elementary/Middle School Students in Urban Communities. Cr. 3**

Prereq: acceptance in M.Ed. program. Challenges and resources of teaching diverse populations in metropolitan schools. (I)

**7850 Current Issues in Elementary Education. Cr. 1-9 (Max. 9)**

Current developments and issues of concern and debate in education at the international, national, state and local level. (I)

## ENGLISH EDUCATION (EED)

**5200 Methods of Teaching English: Grades 7-12. Cr. 3**

Prereq: admission to College of Education. Introduction to the purposes and methods of teaching English composition and literature in grades seven through twelve. (T)

**6120 English Composition in Secondary Schools. Cr. 3**

Prereq: admission to College of Education. 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. (F,W)

**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. (F,W)

**6310 (EED 6310) Young Adult Literature. (LIS 6530) 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. (T)

**6330 Teaching Literature in Secondary Schools. Cr. 3**

Prereq: admission to College of Education. 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. (T)

## LANGUAGE EDUCATION (LED)

**5300 (CHI 5300) Teaching Chinese as a Second Language. Cr. 1-3**

Prereq: CHI 3100 or equiv. Introduction to basic teaching grammar and sound rules and general teaching methodology. (W)

**5810 (LGL 5810) Teaching Foreign Languages: Receptive Skills. (LED 7810) (LGL 7810) Cr. 3**

Prereq: LED 5850 or consent of instructor. 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. (B)

**5820 (LGL 5820) Teaching Foreign Languages: Productive Skills. (LED 7820) (LGL 7820) Cr. 3**

Prereq: LED 5850 or consent of instructor. 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. (B)

**5830 (LGL 5830) Technology in the Foreign Language Classroom. (LED 7830) (LGL 7830) Cr. 3**

Prereq: LED 5850 or consent of instructor. Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. (B)

**5850 (LGL 5850) Foreign Language Instruction. (LED 7850) (LGL 7850) 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 testing. (B)

**5860 (LGL 5860) Foreign Language Testing. (LED 7860) (LGL 7860) Cr. 3**

Prereq: consent of instructor. 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. (Y)

**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. (Y)

**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. (Y)

**6520 Teaching English as a Second Language/Foreign Language: Methods I. Cr. 3**

Prereq: admission to College of Education. 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. (Y)

**6530 Teaching English as a Second Language/Foreign Language: Methods II. Cr. 2-3**

Prereq: admission to College of Education. 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. (Y)

**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. (Y)

**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. (Y)

**6580 Culture as the Basis for Language Teaching. Cr. 2-4**

Prereq: admission to College of Education. 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. (B)

**7210 Special Problems in Language Education. Cr. 3**

An examination of current problems which inhibit foreign language teaching. Students identify particular problems and work individually or in groups to seek solutions. (Y)

**7240 Advanced Seminar in Language Teaching. Cr. 2-4**

Development, production, and evaluation of innovative techniques for first and second language teaching. (I)

**7810 (LGL 5810) Teaching Foreign Languages: Receptive Skills. (LED 5810) (LGL 7810) Cr. 3**

Prereq: LED 7850 or consent of instructor. 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. (B)

**7820 (LGL 5820) Teaching Foreign Languages: Productive Skills. (LED 5820) (LGL 7820) Cr. 3**

Prereq: LED 7850 or consent of instructor. 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. (B)

**7830 (LGL 5830) Technology in the Foreign Language Classroom. (LED 5830) (LGL 7830) Cr. 3**

Prereq: LED 7850 or consent of instructor. Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. (B)

**7850 (LGL 5850) Foreign Language Instruction. (LED 5850) (LGL 7850) 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 testing. (B)

**7860 (LGL 5860) Foreign Language Testing. (LED 5860) (LGL 7860) Cr. 3**

Prereq: consent of instructor. 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. (Y)

## MATHEMATICS EDUCATION (MAE)

**5100 (MAT 5180) Geometry for Middle School Teachers. Cr. 3**

Prereq: MAT 1110 and 1120 or consent of instructor. No credit toward a major or minor for secondary mathematics teaching. MAE 5100 may be taken for graduate or undergraduate credit; MAT 5180 may be taken for undergraduate credit only. Development of Euclidean geometry as a mathematical system; related historical topics; introduction to other geometries; selected topics such as transformations and tessellations. (F,W)

**5110 (MAT 5190) Number Theory for Middle School Teachers. Cr. 3**

No credit toward a major or minor for secondary mathematics teaching. MAE 5110 may be taken for graduate or undergraduate credit; MAT 5190 may be taken for undergraduate credit only. Prereq: MAT 1800, or former MAE 5060, or MAT 1120. Topics from elementary theory of numbers which underlie middle school mathematics; historical connections; role of abstraction and proof in mathematics. (F,W)

**5120 (MAT 5120) Abstract Algebra for Middle School Teachers. Cr. 3**

No credit towards major in mathematics or secondary mathematics. MAE 5120 may be taken for graduate or undergraduate credit; MAT 5120 may be taken for undergraduate credit only. Prereq: MAT 1120 or former MAE 5060, and MAT 1800. Topics from elementary abstract algebra underpinning middle school mathematics curriculum; historical connections; role of abstraction and proof in mathematics. (F,W)

**5130 (MAT 5130) Problem Solving for Middle School Teachers. Cr. 3**

Prereq: MAT 1120 or former MAE 5060, and MAT 1800. No credit towards a mathematics major or secondary mathematics education major. MAE 5130 may be taken for graduate or undergraduate credit; MAT 5130 may be taken for undergraduate credit only. 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. (F,W)

**5150 Methods and Materials of Instruction: Secondary School Mathematics. Cr. 3**

Prereq: admission to College of Education; 19 credits toward secondary mathematics major or minor. To be elected before student

teaching. Mathematics in secondary school; major concepts of secondary school mathematics; methods and instructional materials; classroom administration; modern trends. (Y)

**6050 Teaching Mathematics in the Middle Grades. Cr. 3**

Prereq: admission to College of Education. 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. (Y)

**6150 Special Topics. Cr. 1-6 (Max. 12)**

Current issues and trends; areas of neglected content; curriculum proposals; related research. Topics to be announced in Schedule of Classes. (I)

**6200 (MAT 6200) Teaching Arithmetic, Algebra and Functions from an Advanced Perspective. Cr. 3**

Prereq: MAT 5120, 6170, or 6180; or consent of instructor. 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. (Y)

**6210 (MAT 6210) Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective. Cr. 3**

Prereq: completion of a major in mathematics or secondary mathematics education. 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. (Y)

**6400 Elementary School: Mathematics Curriculum and Assessment. Cr. 3**

Prereq: admission to M.Ed. program. Developing competence in school mathematics programs: objectives, procedures, materials, organizational patterns, evaluation. (T)

**6450 Integrating Literature and Mathematics in the Elementary School. Cr. 3**

Examining the potential of literature for exploration of various mathematical concepts and relationships. (S)

**7150 Advanced Studies in Teaching Discrete Mathematics. Cr. 3**

Open only to graduate students. Nature of discrete mathematics and its applications, incorporating discrete topics in school mathematics. (B)

**7200 Advanced Studies in Teaching Statistics and Probability. Cr. 3**

Open only to graduate students. 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. (B)

**7250 Advanced Studies in Teaching Algebra. Cr. 3**

Open only to graduate students. Fundamental concepts of algebra for a modern secondary school mathematics program; current trends and experimental programs; related research; methods and materials of instruction. (B)

**7300 Advanced Studies in Teaching Geometry. Cr. 3**

Open only to graduate students. 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. (B)

**7400 Seminar in Mathematics Education. Cr. 3 (Max. 9)**

Open only to graduate students. Recent research in mathematics education; implications for learning and teaching, K-12. Topics to be announced in Schedule of Classes. (Y)

**8400 Technology in Mathematics Learning and Teaching. Cr. 3**

Open only to doctoral students; open to master's students with consent of advisor. Recent research on the use of technology in mathematics education; implications for learning and teaching mathematics, K-12. (B)

**8550 Theoretical Perspectives on Learning Mathematics. Cr. 3**

Open only to doctoral students; open to master's students with consent of advisor. Survey of various perspectives on the learning and teaching of mathematics; underlying psychological bases; implications for teaching. (B)

## READING, LANGUAGE, and LITERATURE EDUCATION (RLL)

**6120 Developmental Reading I: Comprehension Preprimary-8. Cr. 3**

Prereq: ELE 6310. Development of comprehension in literature and informational material. Instructional strategies and selection of material for instruction with emphasis on literacy across the curriculum. Evaluation of comprehension through formal and informal measures; reporting to parents and other professionals. Implications of multiculturalism, special needs, and English language learners. (T)

**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. (T)

**6400 Practicum in Developmental Reading. Cr. 1-4 (Max. 4)**

Identifying and solving field problems in developmental reading, management of reading instruction, the importance of reading in the content areas. (T)

**6700 Second Language Literacy Development: K-12. Cr. 3**

Prereq: LED 6520. Examination of theories, organizations and instructional strategies involved in second language literacy development, and their applications in the classroom. (F,S)

**6801 Assessment and Differentiated Instruction for Diverse Learners: Pre-K-8. Cr. 3**

Prereq: teacher holding provisional teaching certification at elementary level. 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. (T)

**6802 Assessment and Differentiated Instruction for Diverse Learners: 6-12. Cr. 3**

Prereq: teacher holding provisional teaching certification at secondary level. 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. (T)

**7100 Emergent Literacy. Cr. 3**

Variety of theories, organization and instructional strategies involved in the beginning stages of literacy; their application to the classroom. (Y)

**7200 Comprehension. Cr. 3**

Prereq: RLL 7100. Models of comprehension, factors that affect comprehension, instructional methods, reading/writing connection, evaluation (pre-K to adult). (Y)

**7300 Literacy Across the Curriculum. Cr. 3**

Prereq: RLL 7100, 7200. Theoretical bases for teaching literacy across the curriculum; strategies for organization and instruction. Action research as a tool for learning. (Y)

**7350 Organization and Supervision of Literacy Programs. Cr. 3**

Prereq: RLL 7100, 7200. 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. (S)

**7400 Practicum and Seminar in Evaluation and Instruction. Cr. 3 (Max. 6)**

Prereq: RLL 7100, 7200. Offered for S and U grades only. Must be elected in consecutive Fall and Winter semesters; credit awarded only on completion of second semester. Evaluation and literacy competencies of learners, methods of instruction, use of portfolios and reports to document progress; applied during supervised tutoring. (Y)

**7500 Theoretical Foundations for Literacy. Cr. 3**

Prereq: RLL 7100, 7200. Implications of theories from sociology, psychology, linguistics, semiotics and related fields, for the development of literacy. (Y)

**7600 Current Developments in Literacy Education. Cr. 1-6 (Max. 6)**

Topics of current interest; review of literature, discussion of educational implications. (Y)

**7720 (RLL 7720) Survey and Analysis of Current Literature for Children: PS-Grade 3. (LIS 6510) 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. (Y)

**7740 (RLL 7740) Survey and Analysis of Literature for Older Children: Grades 4-8. (LIS 6520) 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. (Y)

**7760 Functions of Literature in Early and Late Childhood. Cr. 3**

The effect of fiction and non-fiction on children's cognitive and social development. Specific uses of children's literature for education in home, school, and community. (I)

**7780 (RLL 7780) Storytelling. (LIS 6550) 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. (Y)

**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. (I)

**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. (I)

**8200 Thought, Language, Social Interaction, and Learning.**

**Cr. 3**

Prereq: admission to doctoral program or education specialist program. Reading, writing and learning as psycho-social activities which reflect culture and community; interrelationships between thought, language, social interaction, and learning. (I)

**8500 Literacy in a Socio-Political Culture. Cr. 3**

Prereq: admission to doctoral program or education specialist program. Literacy issues within social, political, and cultural arena; actions that impact literacy and literacy instruction. (Y)

**8600 Internship in Research and Teaching. Cr. 3-6 (Max. 6)**

Prereq: admission to doctoral program; to be taken after minimum nine credits of course work in focus area. Experiences in college-level teaching and/or research through internships teaching college courses and/or collaborative research with experienced faculty. (T)

**8700 Research Applications in Literacy. Cr. 3**

Prereq: admission to a doctoral program; completion of qualitative research; EER 7630, 7640. Research designs, analysis strategies, relevant statistics useful in conducting a wide variety of contemporary literacy-related research. (Y)

**8800 Seminar in Research in Reading I: Basic Theory and Comprehension. Cr. 3**

Seminal research and theories in literacy and related fields such as psychology, sociology, literary criticism, linguistics, and semiotics, that have shaped literacy theory and instruction, metacognition, and comprehension. (B)

**8810 Seminar in Research in Reading II: Emergent Literacy and Socio-Cultural Factors. Cr. 3**

Prereq: admission to education specialist or doctoral program. Current research and theories of emergent literacy and the social and cultural factors of literacy development. (B)

**8830 Current Issues and Research in Literacy. Cr. 3**

Prereq: admission to doctoral program or education specialist program. 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. (B)

**8840 Practicum in Supervision and Administration of Programs in Literacy Development. Cr. 3**

Prereq: RLL 7400 or former RDG 7400 or equiv. 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. (T)

**SCIENCE EDUCATION (SCE)**

**5010 Biological Sciences for Elementary and Middle School Teachers. Cr. 3-4**

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. Material Fee As Indicated In The Schedule of Classes (F,W)

**5020 Physical Sciences for Elementary and Middle School Teachers. Cr. 3-4**

Significant principles, generalizations and understandings in the physical and earth sciences with relation to their use with children. Appropriate learning activities including experiments, field trips, refer-



ence materials, audio-visual resources. Material Fee As Indicated In The Schedule of Classes (F,W)

**5030 Earth/Space Science for Elementary and Middle School Teachers. Cr. 3-4**

Principles, generalizations and understandings related to teaching earth/space science to children. Learning activities, field trips, technology, and evaluation. Material Fee As Indicated In The Schedule of Classes (T)

**5040 Field Course Exploring the Natural Environment. Cr. 1-3**

Field and laboratory study of local plants, animals, and the physical environment, including climate, geology and astronomy. Interrelationships emphasized; techniques for using the out-of-doors as a learning laboratory. Material fee as indicated in Schedule of Classes. (S)

**5060 Methods and Materials of Instruction in Secondary School Science I. Cr. 3**

Prereq: admission to College of Education. 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. Material Fee As Indicated In The Schedule of Classes (F)

**5070 Methods and Materials of Instruction in Secondary School Science II. Cr. 3**

Prereq: admission to College of Education; SCE 5060 recommended. 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. (W)

**6030 Advanced Studies in Teaching Science in the Junior High and Middle School. Cr. 3**

Prereq: admission to College of Education. 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. (Y)

**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. Material Fee As Indicated In The Schedule of Classes (Y)

**6080 Teaching Environmental Studies. Cr. 2-4**

For teachers of all academic disciplines and from all school levels, as well as persons of other occupational interests. Environmental problems, possible solutions, and their implications for classroom teaching and curriculum. Material Fee As Indicated In The Schedule of Classes (S)

**7010 Special Topics in Science Education. Cr. 1-3 (Max. 6)**

Prereq: teaching or supervisory experience recommended. 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. (Y)

## SOCIAL STUDIES EDUCATION (SSE)

**6710 Methods and Materials of Instruction in Secondary**

**Social Studies. Cr. 3**

Prereq: admission to College of Education. 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. (T)

**6720 Teaching the Interdisciplinary Knowledge of Social Studies. Cr. 3**

Building interdisciplinary knowledge and pedagogical skills in the social studies, including media literacy. (F)

**6730 New Perspectives in Social Studies Education. Cr. 3**

Prereq: admission to College of Education. Development of curricular lesson plans, unit plans, and other teaching strategies utilizing current approaches in social studies education. (W,S)

**7780 Readings in the Social Studies. Cr. 3**

A reading seminar with emphasis on content and teaching strategies for social studies education. (F,W)

**8740 Graduate Seminar in Social Studies Education. Cr. 3**

Theories of social education; contrasting curricular designs, their assessment and evaluation; critique of research; study of curricular improvement problems. (F)

## SPECIAL EDUCATION (SED)

**5030 Education of Exceptional Children. Cr. 3**

Prerequisite or corequisite to all SED courses taken for major credit. General background and overview information concerning various classifications of exceptional children, youth and young adults, their role in society, and their education. (T)

**5040 Language Acquisition and Educational Interventions for Students with Moderate to Severe Impairment. Cr. 2**

Prereq. or coreq: SED 5030. Normal language-communication development and acquisition; how it may differ for persons with moderate to severe cognitive impairment. Emphasis on utilizing augmentative and alternative communication systems. (S)

**5060 Developing Observation and Assessment Skills: Laboratory/Seminar. Cr. 3**

Prereq. or coreq: SED 5030. Investigation and application of appropriate evaluative techniques for use with learners with mental impairments in an educational setting. (Y)

**5090 Transitions for Students with Disabilities. Cr. 3**

Prereq: SED 5030; admission to College of Education. Strategies for supporting students with disabilities and special needs making effective transition between schools and from school to adult life as engaged and effective community members. (Y)

**5110 Introduction to Cognitive Impairment and Educational Interventions. Cr. 3**

Prereq. or coreq: SED 5030; admission to College of Education Level 2. Characteristics, classifications, etiologies, evaluation and learning strategies for the improvement of the learning processes in learners with a cognitive impairment. (F,W)

**5130 Curriculum and Instructional Strategies: Cognitive Impairments. Cr. 3**

Prereq: SED 5030 and 5110; admission to College of Education. Specialized instructional approaches, evaluation, techniques, curriculum and instructional aids for educating children, youth, and young adults with cognitive impairments within the school and community. (Y)

**5140 Behavior Management: Positive Behavior Support. Cr. 3**  
Prereq. or coreq: SED 5030 or equiv; admission to College of Education Level 2. Proactive approaches to dealing with behavioral challenges and social-emotional needs of children and youth; functional behavior analysis, behavior intervention plans. (Y)

**5260 Effective Instructional Strategies for Exceptional Learners. Cr. 3**

Prereq. or coreq: SED 5030. Effective instructional strategies for students with special needs; multi-level and differentiated instruction, scaffolding, multi-modal instruction. (F)

**5600 Support and Collaboration for Inclusive Teaching. Cr. 3**

Prereq: SED 5030, 5010, or 7050. Strategies for teaching students with a wide range of academic, social-emotional, and sensory-physical abilities together in general education classes. Emphasis on support, collaboration, and co-teaching. (I)

**6000 Topics in Special Education. Cr. 1-6 (Max. 8)**

Prereq: consent of instructor. Topics and issues for teachers, supervisors, and administrators that address the needs of infants/toddlers, children, youth, and/or adults who have developmental delays or disabilities, or other exceptionality. (I)

**6010 Seminar in Special Education Teaching. Cr. 2**

Prereq: admission to College of Education; coreq: student teaching in special education. Selected topics, problem solving, and reflection on experiences as a student teacher facilitating the learning of children with a mental and/or related disability. (F,W)

**6021 Introduction to Autism Spectrum Disorder (ASD). Cr. 3**

Historical and current research on etiology, identification, and characteristics of autism spectrum disorder (ASD), with professional and personal perspective. Focus on interventions and services, and quality of life outcomes for children, youth, and their families. (W)

**6030 Autism Spectrum Disorder (ASD): Educational Interventions. Cr. 3**

Research foundations for recommended instructional programs for children, youth, and adults with ASD. Focus on assessment and interventions designed for student achievement within the general curriculum, relationship-based transitions, and improved quality of life outcomes. (F)

**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. (W)

**6050 Language, Communication, Development, and Interventions. Cr. 3**

Research foundations of language and communication development, as it applies to the developmental context of autism spectrum disorder for children, youth, and adults. Cross-disciplinary practices in assessment, design, implementation, and evaluation of relationship-based interventions. (F)

**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." (S)

**7050 Inclusive Teaching. Cr. 2**

Open only to non-majors. Strategies and techniques for teaching children and youth with differing academic, social-emotional, and sensory-physical abilities together in general education, using best instructional practices. (Y)

**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. (F)

**7770 Assessment and Evaluation of Students with Special Needs. Cr. 3**

Methods, materials and procedures for education of adolescents with learning disabilities in school programs. (W)

**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. (S)

**7800 Practicum/Internship in Special Education. Cr. 1-24 (Max. 24)**

Prereq: consent of instructor. Two-semester sequence. Education of students with disabilities in best practices; implementation of action research project. Focus on area of certification/endorsement. (S)

**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. (I)

**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. (I)

**7840 Advanced Internship in Special Education. Cr. 3-6 (Max. 6)**

Prereq: consent of instructor. Individualized internship developed in collaboration with faculty to focus on university teaching, research, leadership and other advanced professional experiences. (W)

**8700 Advanced Seminar in Special Education. Cr. 3**

Open only to educational specialist or doctoral students. Students collaborate with faculty to explore key issues of policy and practice related to education of students with disabilities and special needs. (T)

# Theoretical and Behavioral Foundations

*Interim Assistant Dean:* Alan Hoffman  
*Office:* 341 Education Building; 313-577-1805  
*Website:* <http://tbf.coe.wayne.edu>

## *Professors*

Stephen B. Hillman, Alan Hoffman, Barry S. Markman, John J. Pietrofesa, Shlomo Sawilowsky

## *Associate Professors*

Arnold Coven, JoAnne Holbert, Monte Piliawsky (Clinical), Cheryl Somers, Karen Tonso, Jina Yoon

## *Assistant Professors*

Gail Fahoome (Clinical), Benjamin Kelcey, George Parris, Francesca Per-nice-Duca

## *Senior Lecturers*

Stuart Itzkowitz, Tami Wright

## Graduate Degrees

*MASTER OF EDUCATION with majors in counseling<sup>1</sup>, educational evaluation and research, and educational psychology*

*MASTER OF ARTS with majors in school and community psychology, counseling psychology, counseling, and rehabilitation counseling and community inclusion*

*DOCTOR OF EDUCATION with majors in educational evaluation and research, and counseling*

*DOCTOR OF PHILOSOPHY with majors in educational evaluation and research, educational psychology (with concentrations in school psychology, and learning and instruction sciences), and counseling*

*EDUCATION SPECIALIST CERTIFICATE with a major in counseling*

*GRADUATE CERTIFICATE in Advanced Studies in School Psychology*

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. 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; and

6) to design interdisciplinary, cross disciplinary, and multidisciplinary experiences for and with students.

## COUNSELING PROGRAMS

The counselor education unit offers graduate counseling programs for those professionals committed to being effective counselors in elementary and secondary schools, colleges, universities, and private and public agencies. The unit offers degree programs appropriate for counseling work in K-12 school settings, community agencies, substance abuse treatment centers, sports and exercise facilities, corporate structures, medical institutions, nursing homes, rehabilitation agencies/centers and independent practice.

All applicants will be evaluated with respect to their potential for being effective counseling professionals. Admission decisions are based on a review of the application and a personal interview with the appropriate admission committee. Acceptance is dependent upon the applicant's professional potential, academic and professional background, and professional career goals.

The counselor education unit offers a Master of Arts program with a major in community counseling and school counseling. Additional training may be completed in art therapy, and rehabilitation counseling. A rehabilitation counseling major in the Master of Arts program includes training in disability management, disability leadership, career development, job placement supported employment, adjustment counseling and vocational evaluation.

All programs include a practicum and internship clinical experience and a terminal masters seminar and project.

**Counseling Accreditation:** The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Council on Postsecondary Accreditation (COPA), has conferred accreditation to the M.A. in Community Counseling and School Counseling, and the Ed.D and Ph.D programs in counselor education and supervision. In addition, the Council on Rehabilitation Education accredits the Rehabilitation Counseling major (CORE).

**The Education Specialist Certificate** program is intended for guidance professionals who want to improve their competence in counseling. Since this is a professional certificate program, persons considering applying should confirm that they have the prerequisite education and experience prior to making formal application. This certificate is not an entry level program, but builds on master's level preparation in counseling.

**The Doctor of Philosophy** is generally required for those intending to teach, conduct research, or provide counseling services in universities and colleges. In addition, those desiring counseling positions in governmental or community agencies, and the like, may be required to take advanced training in counseling theory and practice, consultation, scholarly research, and supervision of counselors.

**The Doctor of Education** program consists of advanced courses designed for those persons who wish to become directors of guidance or pupil personnel programs and coordinators or consultants in guidance and counseling programs in K-12 and intermediate school districts. The Ed.D. provides opportunities to improve skills and competencies as school counselors in counseling, program development, career development, consultation research, and supervision of counselors.

**Time Limitation:** Requirements for the Master of Arts or Master of Education degree must be completed within six years after completion of the first course applicable toward the degree. All degree

<sup>1</sup>A moratorium is in effect for admission to the M.Ed. in Counseling program.

requirements for the doctoral program must be completed within seven years from the time of official admission.

**Writing Style:** The counselor education unit has adopted the *Publication Manual of the American Psychological Association* as the style guide for preparation of all papers submitted in fulfillment of program requirements.

**Class and Internship Scheduling:** All counseling program courses are offered only in the evening hours (4:00 p.m. to 10:15 p.m.), permitting working students the opportunity to pursue their educational endeavors. Additionally, the counseling program will arrange with community settings (i.e., agencies, schools, institutions) whereby working students may complete the clinical portions of their programs as well as fulfill employment obligations elsewhere.

**Licensure:** Individuals in the counseling profession who practice in Michigan must seek professional licensure. Satisfactory completion of degree requirements in the counselor education master's and doctoral programs allows the student to apply for the Limited Licensed Professional Counselor (LLPC) credential in the State of Michigan. The Educational Specialist Certificate program does not meet Michigan eligibility requirements for the professional counselor licensure. Information on licensure may be obtained from the Michigan Department of Community Health, Board of Counseling, P.O. Box 30670, Lansing, Michigan 48909; telephone: 517-335-0918.

Effective with the passing of PA 288 (July 10, 2000) an amendment in Act 451 of the Public Acts of 1976 (the Revised School Code), individuals who complete the school counseling specialization (with or without a teaching certificate) may be employed as school counselors and recommended for the new School Counselor License (SCL). All applicants for the School Counselor License (SCL) must have received a passing score on the State of Michigan, Department of Education's Michigan Test for Teacher Certification (MTTC) Guidance Counselor Examination. MTTC examination scores must be furnished directly to Wayne State University by the MTTC testing agency, Evaluation Systems Group of Pearson. When registering for the MTTC, select "Wayne State University (31)" as a "College or University to Receive Scores."

Students whose examination scores were not released to Wayne State University should request an original score report from Evaluation Systems Group of Pearson. An original score report is required by the Michigan Department of Education for verification of test scores.

**Counseling Accreditation:** The Council for Accreditation of Counseling and Related Educational Programs (CACREP), a specialized accrediting body recognized by the Council on Postsecondary Accreditation (COPA), has conferred accreditation to the following programs in the counselor education program: M.A. with various specializations and the Ed.D. and Ph.D. programs in counselor education and supervision. In addition, the Rehabilitation Counseling and Community Inclusion major is accredited by the Council on Rehabilitation Education (CORE).

## Master of Arts and Master of Education with a Major in Counseling

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. Admission to the counselor education program requires a grade point average of 2.50 or above for the undergraduate course work. Program admission requirements include: a personal interview with an admission committee and a typewritten autobiographical statement reflecting the applicant's respective personal and professional history with a statement of rationale for seeking admittance to the program. (There is currently a moratorium in effect for admission to the M.Ed. in Counseling program; interested students are encouraged to consider the M.A. program.)

Admission to the specialization in Art Therapy also requires submission of a portfolio of original art work, to be evaluated by art therapy faculty, that demonstrates competence with art materials

**DEGREE REQUIREMENTS:** The various specializations in counseling require a set of core courses and individual requirements depending on the goals of the student. All specializations require a foundation program of fifty-four credits under Plans A or C. Additional credits may be required for students completing more than one specialization area. Outlines of recommended minimum programs in the specialization area may be secured from the unit secretary. Cognate course work within and /or outside the College of Education supportive of a major in counselor education is required of all candidates.

## Education Specialist Certificate with a Major in Counseling

The Educational Specialist Certificate program in Counseling is intended for those who are presently counseling professionals who want to improve their competency in counseling and/or receive training in counselor clinical supervision. The Specialist Certificate does not meet eligibility requirements for the Professional Counselor License in the State of Michigan.

**Admission:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. After admission to the College, program requirements also include a master's degree from an accredited graduate school in counseling, rehabilitation counseling, or a closely related field that includes entry-level curricular experiences and demonstrated knowledge and competency in each of eight common counseling areas required by CACREP: human growth and development, social and cultural foundations, helping relationships, groups, life and career development, appraisal, research and evaluation, and professional orientation. A minimum grade point average of 3.0 ('B' or above) on the master's degree is required for admission consideration. Additionally, applicants to the educational specialist certificate program must hold professional counselor licensure (LLPC or LPC) prior to admission.

Applicants are also required to conduct a single 45-minute counseling session in the College of Education Counseling and Testing Center. This session will be audio and/or video taped for evaluation by the Advanced Admissions Advisory Committee. An interview with the Advanced Admissions advisory Committee is also required.

**CERTIFICATE REQUIREMENTS:** A minimum of thirty credits is required for this certificate. Course requirements for the program are determined in consultation with an advisor.

## Doctoral Degrees with a Major in Counseling

**Admission:** In addition to meeting the basic admission requirements of the graduate school (for requirements, see page 18) and those of the College, a master's degree from an accredited graduate school is required. The master's program must be in counseling, school counseling, rehabilitation counseling, or a closely related field that includes entry-level curricular experiences and demonstrable knowledge and skill competency in each of the eight areas required by CACREP: human growth and development, social and cultural foundations, helping relationships, groups, life and career development, appraisal, research and evaluation, and professional orientation.

In addition to either a grade point average of 3.5 or above in the master's degree, or a grade point average of 3.35 or above in a master's degree and a grade point average of 3.75 in the Counseling Educational Specialist Certificate program, admission criteria include consideration of academic aptitude for doctoral work, previous professional experience, demonstrated counseling skills, knowledge of counseling concepts, and potential for professional leadership.

A department-written examination is required. Doctoral program applicants are also required to take the Graduate Record Examination and have the results forwarded to the program area. In addition, a demonstration of counseling skills is required using the Counseling and Testing Center. A single 45-minute session is audio- and/or video-taped and reviewed by the Advanced Admission Committee.

Applicants must make up any deficits or remedial work as listed on their approved application for admission form before beginning advanced doctoral course work. Specifically, those persons who have master's degrees from closely-related fields (psychology, social work, nursing) must complete all academic and clinical prerequisites required before beginning advanced doctoral course work.

**DEGREE REQUIREMENTS:** The doctoral program is individually developed with a major advisor. Within the guidelines of the Graduate School and the college, students build a specialized curriculum. All students complete:

1. two doctoral seminars from foundation areas;
2. a concentration in counselor education;
3. at least two doctoral level supervised internships;
4. course work aimed at developing competence in statistics and research methodologies;
5. course work selected by the student, major advisor and cognate advisor which supports an additional area of professional expertise;
6. and electives chosen from the major field or the cognate area

Additional requirements for the doctoral degrees are explained in greater detail in program materials available from the program area.

## EVALUATION and RESEARCH PROGRAMS

Evaluation and Research offers concentrated programs for building careers and leadership positions in educational evaluation and statistics; computer applications; and research methodology.

Students who have already successfully achieved background, training, and experience in substantive disciplines of education and in non-education fields and who are interested in becoming more proficient in scientific inquiry, research strategies, evaluation and appraisal of studies, models and designs, and multivariate analysis, especially in conjunction with computer facilities, are afforded such opportunities in these programs. For optimum effective preparation, internships in research will be arranged upon request. The staff is available to students and faculty for consultation in research design and multivariate analysis.

Cooperative educational programs leading to training skills in Educational Evaluation and Research in Medical Education are also available. This specialized training is available in cooperation with selected faculty from the School of Medicine. Persons from the health sciences seeking educational research skills and persons from education backgrounds seeking health science education skills are brought together for their mutual growth

## Master of Education with a Major in Educational Evaluation and Research

**Admission:** Students are admitted every semester and must meet the general admission requirements for the M.Ed. outlined on page 94.

**DEGREE REQUIREMENTS:** A minimum of thirty credits is required for this degree under Plan A, B, or C as defined on page 94. Required courses include ED 7999 if Plan B or C is elected, or ED 8999 for Plan A. In addition, a minimum of twelve credits in educational evaluation and research

## Doctoral Degrees with a Major in Educational Evaluation and Research

**Admission:** Applicants to doctoral programs in this area must meet the admission requirements stated on page 95.

**DEGREE REQUIREMENTS:** Basic degree requirements for the Ph.D. and Ed.D. programs are stated on page 96. All courses in the major are selected in consultation with an advisor.

## EDUCATIONAL PSYCHOLOGY PROGRAMS

The Master's Degree programs in Educational Psychology are primarily concerned with the preparation of individuals working in settings such as schools, behavioral mental health care settings, business and other fields, who wish to develop skills and knowledge in the application of psychology.

Two majors are offered for the Master of Arts degree: School and Community Psychology and Counseling Psychology. The School and Community psychology program offers two years of course work, plus a one-year internship. The Counseling Psychology program offers two years of course work plus two semesters of a clinical internship. Satisfactory completion of the School and Community Psychology program allows the student to be certified as a school psychologist by the State of Michigan. It also allows the student to apply for a Limited License to Practice as a Psychologist (L.L.P.) in the State of Michigan. Satisfactory completion of the Counseling Psychology program allows the student to qualify for the Limited License to Practice as a Psychologist in the State of Michigan and, with additional coursework, a State of Michigan license as a Marriage and Family Therapist.

Both of these programs serve as a base for further study at the Ph.D. level, which can lead to licensure by the State of Michigan as a Licensed Psychologist after completion of the Ph.D. program.

The major in School and Community Psychology is designed to develop the competencies necessary for approval as either a school or community psychologist at the master's or doctoral level. Students applying at the doctoral level must file program area applications concurrently for both programs.

The major in Counseling Psychology has an emphasis in individual and marriage and family therapy. It meets the competencies necessary for approval as a masters or doctoral level psychologist. Students applying at the doctoral level must file program area applications concurrently for both programs.

The prospective student should recognize that the majors of School and Community Psychology and Counseling Psychology involve, in addition to course requirements, clinical experience in school and/or agency settings. Due to the clinical nature of the courses and the internship, both majors require students to have active liability coverage throughout the program. Retention in the program, graduation, and recommendation for certification/licensing approval depend upon demonstrated clinical skill as well as on the student's academic achievement. A grade point average of 3.0 with no more than one earned grade of 'C' plus is required to continue in the M.A., M.Ed., and Ph.D. programs and to graduate. The staff will try to arrange for psychological practicums and internships in either a school system or a community mental health facility in keeping with program requirements.

In addition to completing all procedures for admission to the Graduate School, each applicant must complete an admissions form obtained from the Program Area website: <http://tbf.coe.wayne.edu>, complete a testing program, and be interviewed by an admissions committee. Applicants are strongly encouraged to contact the program area secretary to ensure they have received complete and updated application and program information.

## Graduate Certificate in Advanced Studies in School Psychology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Students must be in good academic standing in the School and Community Psychology M.A. program to apply and enroll in the Certificate program. Students will be admitted concurrently to the Certificate program for the Spring/Summer of second year of the Master's program.

Minimum Number of Credit Hours & Required Courses

**CERTIFICATE REQUIREMENTS:** Fifteen credits of seminars and internships are required for this program. Students are required to complete a professional portfolio, to attend supervision meetings, and to conduct a comprehensive case study and presentation at the end of the Certificate program. Students are evaluated by both university faculty and field supervisors on both their professional skills and their professional behaviors and attitudes as outlined by the National Association of School Psychologists. During Spring/Summer of the second year, students will complete their Master's requirements by enrolling in EDP 7390, 8320 and 8330 for a total of nine credits, as they do now. However, because students will be concurrently enrolled in the Certificate program, all three of these courses will count toward both the Master's degree and the Certificate. Graduate School policy permits nine credits to be applied to fulfill the requirements of both a Certificate and a Master's degree. Students will complete the final six credits of the Certificate by enrolling in EDP 8360 during the third year of the program. The curriculum is outlined below.

EDP 7390 -- Professional Seminar: Cr. 1

EDP 8320 -- Internship in Clinical Procedures I: Cr. 5

EDP 8330 -- Internship in School Psychology I: Cr. 3

EDP 8360 -- Internship in School Psychology II: Cr. 6

**Graduation Requirements:** All Certificate coursework must be completed in accordance with Graduate School and College of Education regulations governing graduate scholarship and Certificates. Students must maintain at least a 3.0 g.p.a. in the Certificate courses. Departmental policy stipulates that students who receive two course grades of C+ or below will not be permitted to complete the program. Students must complete requirements within three years of admission to the Certificate program.

## Master of Arts with a Major in School and Community Psychology

**Admission:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. A minimum of fifteen credits in psychology or education psychology is prerequisite to admission. A program area application, the verbal and quantitative sections of the Graduate Record Examination (GRE), three letters of recommendation and a personal interview are required for admissions consideration. Applications are accepted between September 1 and February 1 for school and community psychology students. Students are admitted once each year and must begin the program in the fall semester of the year for which they are admitted. It is strongly suggested that applicants contact the department in order to obtain program brochures which contain additional items for submission on or before the above deadlines. As part of a full completion of the master's program, students move into a graduate certificate program that culminates at the end of year 3. Please refer to the School and Community Psychology website for additional information: <http://coe.wayne.edu/tbf/edp/school/>

**School and Community Psychology Requirements:**

Course work requirements include: EDP 6220, 7220, 7260, 7300, 7390, 7400, 7410, 7420, 7430, 7490, 7560, 7610, 7710, 8320, 8330 (during years two and three); EDP 5630; and ED 7999.

## Master of Arts with a Major in Counseling Psychology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. A minimum of fifteen credits in psychology or educational psychology and a minimum undergraduate point average of 2.8 are prerequisite to admission. A program application, the verbal, quantitative, and writing sections of the Graduate Record Examination (GRE), three letters of recommendation, undergraduate transcripts, and a personal interview with the admissions committee are required by the program. Applications are accepted after September 1 with an early deadline of February 15 or the later deadline of March 15. Applicants are encouraged to apply early and will be interviewed by the Admissions Committee until a class of fifteen students is admitted. All qualified applicants will be admitted at this time, but if a class of fifteen students has not been admitted interviews will be scheduled from February 15 to March 15 when the remainder of the class will be assembled. Students are admitted once each year and must begin the program in the summer semester of the year for which they are admitted. It is strongly suggested that applicants contact the department or the Counseling Psychology website (<http://coe.wayne.edu/tbf/edp/counseling-psychology/>) to obtain program and scholarship information and a program application. Application for graduate admissions must be made on-line.

**Counseling Psychology Requirements:**

This program is calendar controlled meaning that all course work must be completed in semester sequences commencing with the Summer term. Required courses are: CED 5090, 7080, EDP 7190, 7200, 7220, 7240, 7370, 7410, 7430, 7490, 7610, 5630, 7560, 7710, 8319, 8320, 8350, and ED 7990. The practicum in clinical procedures (EDP 8320) includes diagnostic testing and psychotherapy under the supervision of a licensed psychologist for a minimum of 600 clock hours.

## Master of Education with a Major in Educational Psychology

**Admission:** See page 94.

**DEGREE REQUIREMENTS:** Basic degree requirements for the Master of Education degree are stated on page 94. A minimum of thirty credits is required for this program and all courses are selected in consultation with an advisor.

## Doctoral Degree with a Major in Educational Psychology

**Admission:** Applicants to the doctor of philosophy program should refer to the admission requirements stated on page 95. There are two concentration areas within the Educational Psychology Doctor of Philosophy Program: School Psychology and Learning and Instruction Sciences, offering two corresponding options for admission: 1) application for direct admission to the Ph.D. with a baccalaureate degree or, 2) application to the Ph.D. program with a master's degree related to a concentration area within the Educational Psychology Doctor of Philosophy Program. Successful applicants seeking admission to the School Psychology Concentration should have a master's degree in School and Community Psychology, Counseling Psychology, or a closely related field. Application materials must be submitted to the chairperson of the School Psychology concentration. Successful applicants seeking admission to the Learning and Instruction Sciences concentration should have a master's degree in Educational Psychology, or a closely related field. Application materials must be submitted to the chairperson of the Learning and Instruction Sciences concentration. Applicants who are directly admitted to the Ph.D. program with a baccalaureate degree will be expected to complete the requirements of one of the master's programs in Educa-

tional Psychology that is related to their chosen concentration area at Wayne State University during their doctoral study.

Applicants are strongly encouraged to contact the program secretary to ensure they have received complete and updated application and program information. For the most recent program description and admission requirements, please consult the College website at <http://coe.wayne.edu/tbf/edp/phd/>.

**School Psychology:** The concentration in School Psychology adheres to the scientist-practitioner model in the training of psychologists working within educational and mental health settings and prepares students to work in research and applied clinical and educational settings. The focus of the program is on training students to understand and integrate systems of care (individuals, schools, family, and community) to maximize outcomes with children, adolescents, families, and adults using developmental and ecological frameworks. In addition to the departmental requirements for the doctoral degree, students take courses in ethics and professional standards, educational and psychological assessment, school, family and child based interventions. Requirements also include supervised clinical training in school and community settings. The minimum degree requirement for the School Psychology concentration is 107 credits in addition to thirty dissertation credits.

This doctoral program meets the Association of State and Provincial Boards/National Register of Health Service Providers in Psychology "Guidelines for Defining Doctoral Degree in Psychology." Therefore, graduates of the program who decide to apply for licensing as a psychologist typically will meet the educational requirements for licensing in the United States and Canada. However, in each jurisdiction there are additional requirements that must be satisfied. For exact information, please contact the state or provincial licensing board in the jurisdiction in which you plan to apply.

Once licensed, graduates are eligible to apply for credentials as a Health Service Provider in Psychology. Graduation from a designated program means that the program completed typically meets the educational requirements for certification by the National Register. However, there are additional requirements that must be satisfied prior to being credentialed by the National Register of Health Service Providers in Psychology. For further information, consult the National Register's web site: <http://www.nationalregister.org>.

**Learning and Instruction Sciences:** The concentration in Learning and Instruction Sciences is a full-time program adhering to the scientist-practitioner model and prepares students in the systematic study of human learning and educational instruction. This concentration integrates interdisciplinary training in instructional technology and educational evaluation and research to prepare graduates to design, implement, and evaluate learning in various contexts. The Learning and Instruction Sciences concentration prepares students for research, service, and administrative careers, teaching in diverse educational settings, and consultation in the private sector. In addition to the departmental requirements for the doctoral degree, students take courses in ethics and professional standards, advanced theories of learning and development, instructional technology, and program evaluation. Students will be able to select a number of courses in the psychology department to complete the required cognate. The minimum degree requirement for the Learning and Instruction Sciences concentration is eighty-four credits in addition to thirty dissertation credits.

**Full-time/Residence Requirement:** The Doctor of Philosophy in Education Psychology requires a minimum of three academic years of full-time graduate study (eight credits or more) at Wayne State University, one of which fulfills the minimum of a one year residence requirement (six graduate credits in coursework, exclusive of dissertation, in each of two successive semesters). For those applicants with a master's degree from Wayne State University, two-years of full-time study in the master's program will be augmented by one year of full-time study in the Doctor of Philosophy in Educational Psychology with a concentration in School Psychology totaling three

years of full-time study. The Doctor of Philosophy in Educational Psychology with a concentration in Learning and Instruction Sciences requires one year of full-time study.

Applications for admissions to the Doctoral program are accepted until February 15th. Please see the website for additional application information.

**DEGREE REQUIREMENTS:** The basic degree requirements for the doctoral degree are stated on page 96. Research course requirements include a minimum of fifteen credits in research and evaluation (EER). All doctoral students will complete a comprehensive examination at the end of coursework and a final report and defense after completion of the dissertation.

## REHABILITATION COUNSELING and COMMUNITY INCLUSION PROGRAMS

The counselor education program offers a Master of Arts degree in rehabilitation counseling and community inclusion that reflects current trends in psychosocial rehabilitation, career development and job placement, supported employment, psychiatric disabilities, trauma, and the support of individuals with disabilities.

The program's mission is to provide an effective model of graduate education in partnership with rehabilitation constituencies to promote quality rehabilitation services. It aims to prepare qualified, reflective, and innovative rehabilitation professionals who are able to competently work with individuals with disabilities and their families, regardless of the type or severity of disability, or of ethnic, racial or cultural background. The program seeks to promote the empowerment, self-determination, economic self-sufficiency, independence, and inclusion in community life of individuals with disabilities.

The master of arts program provides students with the opportunity to develop skills and abilities in disability adjustment counseling, career counseling, job development and placement, vocational and educational evaluation, psychosocial rehabilitation, trauma and mental illness. The degree requirements in this program are designed to develop the competencies necessary for students to apply for the Certified Rehabilitation Counselor (CRC) credential after completion of their course work. In addition, students are eligible to apply for the Limited Licensed Professional Counselor (LLPC) credential in the State of Michigan.

The prospective student should recognize that this program involves both course requirements and clinical experience in community rehabilitation settings. Retention in the program and recommendation for credentials depend upon demonstrated clinical skills as well as academic achievement. Requirements for the Master of Arts degree must be completed within six years after admission to the program.

## Master of Arts with a Major in Rehabilitation Counseling and Community Inclusion

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. To qualify for admission, applicants must have a bachelor's degree or its equivalent from an accredited college or university, adequate preparation and the ability to pursue graduate study in the area of rehabilitation counseling. Regular admission may be recommended with a grade point average of 3.0 or above for undergraduate course work. Detailed information on admission can be obtained from the counseling program area.

**DEGREE REQUIREMENTS:** The Master of Arts degree in this discipline requires the completion of a minimum fifty-five credits. Course requirements include: RCI 7120, 7150, 7410, 7420, 7430, 7440, 7450, 7460, 7470, 7480, 7510; CED 6080, 7000, 7010, 7040, 7080, 7730; EDP 7490; EER 7640; and ED 7999. Students must complete a university-based practicum of at least 100 clock hours (RCI 7430) and an internship of a minimum of 600 clock hours (RCI 7460) in an

approved community-based rehabilitation agency. In addition, all students must complete a terminal masters project (ED 7999) with an emphasis on Rehabilitation Counseling.

The above outlines of recommended minimum degree program requirements are consistent the Council on Rehabilitation Education (CORE), the Commission on Rehabilitation Counselor Certification (CRCC) and the state of Michigan licensure requirements.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## COUNSELOR EDUCATION (CED)

### **5030 Role of the Counselor in Substance Abuse. Cr. 2**

Prereq: graduate standing. An overview of counseling principles, procedures, and methods unique to substance abuse settings. Use of specific counseling strategies and treatment models with substance abusers. (F)

### **5090 Family Education and Counseling: Substance Abusers. Cr. 3**

Prereq: CED 5030 or graduate standing. Analysis of the structure and functioning of family systems in which there is substance abuse; effective therapeutic strategies in working with chemically-abusive families. (I)

### **6070 Introduction to Counseling. Cr. 3**

Prereq: admission to master's program in counseling. Overview of counseling profession, including: the helping process, theories of counseling and consulting, training, credentialing, ethical and legal standards, professional organizations, history and trends of basic research. (T)

### **6080 Theories of Counseling. Cr. 3**

Prereq: admission to master's program in counseling. 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. (T)

### **6700 The Role of the Teacher in Guidance. Cr. 2**

Prereq: admission to College of Education. 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. (T)

### **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. (T)

### **6720 Workshop in Counseling. Cr. 2-4 (Max. 18)**

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. (T)

### **6730 Counseling of Special Populations. Cr. 3-9**

A study of the uniqueness of several special populations such as adults, women and minorities to provide an awareness of their special influences on the counseling process. (T)

### **7000 Introduction to Group Work. Cr. 2**

Prereq: CED 6070 or CED 6080; coreq: CED 7010. 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. (T)

### **7010 Group Counseling Participation. Cr. 2**

Prereq: admission to master's program in counseling; coreq: CED 7000. Offered for S and U grades only. 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. (T)

### **7020 (CED 7020) Counseling Internship. (AED 7890) (RCI 7460) Cr. 1-6 (Max. 6)**

Prereq: CED 7150; written consent of instructor during semester prior to registration. Offered for S and U grades only. 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. (F,W)

### **7030 Counseling and Consulting Services in Community Agencies. Cr. 3**

Prereq: CED 6070. Not open to students in school counseling specializations. 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. (Y)

### **7040 Techniques of Counseling. Cr. 4**

Prereq: CED 6070 or 6080. 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. (T)

### **7070 School Guidance, Counseling, and Consulting. Cr. 4**

Prereq: CED 6070. 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. (W)

### **7080 Career Development and Counseling. Cr. 3**

Prereq: CED 6070; or prereq. or coreq: RCI 7410. 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. (T)

### **7120 (RCI 7120) Assessment for Counselors and Rehabilitation. (CED 7120) Cr. 3**

Prereq: RCI 7410, RCI 7420, and RCI 7480; or CED 6070, and CED 6080. 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. (W)

**7150 (CED 7150) Counseling Practicum. (AED 7380) (RCI 7430) Cr. 4**

Prereq: consent of instructor during semester prior to registration. Supervised experience in individual and group interactions, assessment and appraisal, diagnosis and treatment planning, other professional counseling activities; variety of counseling and rehabilitation resources used. Students attend seminars for supervision and discussion of professional issues in interdisciplinary context (minimum of 100 clock hours). (F)

**7730 Cultural and Diversity Issues in Mental Health Treatment Research. Cr. 3**

Prereq: CED 6080; RCI 7410 or consent of instructor. 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. (F)

**8000 Seminar in Group Counseling. Cr. 3**

Prereq: CED 7000 or equiv. 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. (B)

**8020 Advanced Practicum. Cr. 2-8 (Max. 8)**

Prereq: admission to Ed.Spec. or doctoral program in special education. Supervised practice counseling in the counseling laboratory. Counseling competence evaluated. (F,W)

**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. (B)

**8040 Advanced Counseling Theory and Method. Cr. 3**

Prereq: CED 6080 or equiv. Theories of personality and learning applied to case diagnosis and projected remediation. (B)

**8070 Advanced Seminar in Counseling Research. Cr. 3**

Prereq: admission to education specialist or doctoral program, or consent of instructor; one course in statistics or research methods. Analysis of methodology and design problems in counseling research and evaluation. Development and critique of original research proposal. (B)

**8080 Advanced Career Development and Counseling. Cr. 2-4 (Max. 8)**

Prereq: CED 7080 or equiv. 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. (B)

**9020 Internship in Counseling/Counselor Education. Cr. 1-6 (Max. 24)**

Prereq: admission to counselor education, education specialist, or doctoral program. Offered for S and U grades only. Purposes, objectives, materials, techniques and practices in counselor education programs. Supervised experience in advanced counseling and in various phases of the counselor education program. (T)

**9120 Seminar and Internship Supervising Counselors. Cr. 3**

Prereq: admission to counselor education, education specialist, or doctoral program. Theory and practice of supervision. Students supervise practicum counselors under staff guidance. (F,W)

**9510 Professional Issues in Rehabilitation Counselor Education. Cr. 3**

Prereq: master of arts degree in rehabilitation counseling. Current trends, changes, and issues in the rehabilitation counseling profession; preparation and practice. (B)

**9520 Advanced Research on Disability and Human Behavior. Cr. 3**

Prereq: master of arts degree in rehabilitation counseling. Comprehensive knowledge in disability studies to inform research and teaching and to develop scholarly skills. (B)

## EDUCATIONAL EVALUATION and RESEARCH (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. (T)

**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. (T)

**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. (T)

**7650 Computer Use in Research. Cr. 3**

Prereq: EER 7630. Introduction to computer use in educational research with emphasis on using statistical packages (MIDAS and SPSS, BASIC programming language); writing statistical programs. (T)

**7870 Fundamentals of Qualitative Research. Cr. 3**

Fundamentals of epistemological issues, educational perspectives of qualitative research and research design. Readings in qualitative research. Conducting the case study, personal history, and cognitive study. Overview of methods for analyzing talk, text, and interaction. (F,W)

**7880 Fundamentals of Ethnographic Research. Cr. 3**

Prereq: EER 7870 or consent of instructor. Collecting, analyzing, and writing up findings from ethnographic data (participant-observation field notes, interviews, and artifacts); issues of rigor in naturalistic research in education. (F,W)

**8700 Advanced Qualitative Evaluation: Theory and Practice. Cr. 4**

Prereq: EER 7870. 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. (W)

**8710 Advanced Ethnographic Research. Cr. 4**

Prereq: EER 7880. 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. (W)

**8720 Advanced Quantitative Program Evaluation. Cr. 3**

Prereq: EER 7630, EER 7640, EER 7650, or equiv. Educational and school program evaluation: alternative approaches; students propose theory-based designs and strategies. (W)

**8760 Advanced Measurement I. Cr. 3**

Prereq: EER 7610 or equiv. 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. (Y)

**8770 Advanced Measurement II. Cr. 4**

Prereq: EER 8760 or equiv. Modern measurement theory. Item response theory, including one and three parameter models, detecting item bias, multi-dimensional scaling. (W)

**8800 Variance and Covariance Analysis. Cr. 4**

Prereq: EER 7630 or equiv. 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. (Y)

**8820 Multivariate Analysis. Cr. 4**

Prereq: EER 8800 or equiv. Discriminant analysis, profile analysis; placement and classification problems; component and factor analysis. Supporting topics and techniques; transformation of variables, computer usage. (Y)

**8840 Structural Equation Modeling. Cr. 4**

Prereq: EER 8820. Application of structural equation methods to applied educational psychology research. Model specification, estimation, and fit. Confirmatory factor analysis and correlation. (Y)

**8860 Nonparametric, Permutation, Exact, and Robust Methods. Cr. 4**

Prereq: EER 7630, EER 8800, or equiv. 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. (F,W)

**8880 Monte Carlo Methods. Cr. 1**

Prereq: EER 7630 and 8800. 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. (F,W)

**8900 Qualitative Design for School Research. Cr. 3**

Prereq: EER 8700 or EER 8710. Field Placement. Integration of theory with practice for conducting, analyzing, and reporting qualitative research or evaluation in the schools. (F)

**8910 Practicum in Evaluation. Cr. 2-6 (Max.6)**

Open only to EER majors. Prereq: EER 8700, EER 8710, or equiv. Qualitative methods for action research in schools, including interviewing, field observation, life histories, visual records, and document analysis. (T)

**8992 Research and Experimental Design. Cr. 3-4**

Prereq: EER 7630 or equiv. 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. (F,W)

## EDUCATIONAL HISTORY and PHILOSOPHY (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. (T)

**7670 (EPS 8530) Seminar in the History of Education. (HIS 8110) Cr. 4**

Growth and development of American education K-16, including events, circumstances, and influential ideas. Special emphasis on the relationship between social, political, and economic change and the evolution of education. (B)

**7680 Seminar in Applied and Professional Ethics. Cr. 3 (Max. 6)**

Selected contemporary issues; emphasis on value conflicts. (I)

**9600 Doctoral Seminar in Philosophy of Education. Cr. 3**

Prereq: formal admission to a doctoral program in education. For doctoral students majoring in other areas only. Systematic study of the field of philosophy of education. (W)

## EDUCATIONAL PSYCHOLOGY (EDP)

**5430 School Violence and Conflict Resolution. Cr. 3**

Conflict resolution and school violence as they relate to child growth and development and school organization and policies. (F)

**5450 Child Psychology. Cr. 2-3**

Prereq: admission to College of Education. 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. (T)

**5480 Adolescent Psychology. Cr. 2-3**

Prereq: admission to College of Education. 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. (T)

**5630 Research Readings in Applied Psychology. Cr. 2**

Prereq: admission to school and community psychology, or counseling psychology program. Introduction to research methodology in school and community psychology and counseling therapy. (I)

**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. (F,W)

**6220 Psychology of Exceptional Children. Cr. 3-4**

Open only to students in school and community psychology program. Prereq: consent of department. Psychological aspects of cognitive and physical deficits in children; laboratory experience in differential diagnosis. Material Fee As Indicated In The Schedule of Classes (F)

**7190 Introduction to Marriage and Family Therapy. Cr. 3**

Prereq: admission to school and community psychology or counseling psychology program. An introduction to the theory and its applications to therapy with couples and families. Emphasis on systems theory among others, assessment procedures, therapeutics and skills. (F)

**7200 Advanced Marriage and Family Therapy. Cr. 3**

Prereq: EDP 7190, consent of instructor. Advanced development of skills and knowledge of therapy with couples and families. (W)

**7220 Psychotherapy with Children and Adolescents. Cr. 3**

Prereq: admission to school and community psychology, or counseling psychology program. Theory of psychotherapy, including stages of therapy, issues of therapy, and techniques of therapy with children and adolescents. (Y)

**7240 Psychotherapy with Adults. Cr. 3**

Prereq: admission to school and community psychology, or counseling psychology program. Theory of psychotherapy, including stages of therapy, issues of therapy, and techniques of therapy with adults. (W)

**7260 School-Based Consultation and Intervention. Cr. 3**

Prereq: EDP 7220. Open only to school and community psychology program students; others by consent of instructor. Consultation; academic and psychotherapeutic interventions. Emphasis on practical skills needed to work directly or indirectly with individuals and groups in the school setting. (W)

**7300 Ethics, Standards, and the Practice of Psychology. Cr. 4**

Open only to students admitted to school and community psychology program. Legal, ethical, and professional issues confronting the practitioner. (F)

**7350 The Learning Process. Cr. 2-3**

Substantive issues involved in learning as they relate to school practice. (T)

**7370 Adult Psychopathology. Cr. 3**

Psychopathology of adulthood; mental disorders, treatment and diagnosis. (Y)

**7390 Professional Seminar in School Psychology. Cr. 1**

Open only to students in school and community psychology program. Orientation to school psychology, its history and current status. Consideration is given to legal and ethical problems and the role and responsibilities of the professional psychologist working in the public schools. (S)

**7400 Foundations of Social Psychology. Cr. 3**

Systematic study of social psychology; implications for research and applied settings. (Y)

**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. (F,W)

**7420 Introduction to Behavioral Psychology. Cr. 4**

Basic principles and theories of behavioral psychology. Theoretical aspects of both operant and respondent conditioning. (F)

**7430 Applications I: Behavioral Psychology and Social Learning. Cr. 4**

Behavioral techniques used in dealing with the social behavior of both groups and individuals. (W)

**7480 Psychological Tests and Measurement. Cr. 3**

No credit after EDP 7490. 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. Material Fee announced in Schedule of Classes. (F,S)

**7490 Psychological Evaluation I. Cr. 1-3**

Open only to School and Community Psychology majors or Counseling Psychology majors. No credit after EDP 7480. History of testing, psychometric theory, and test construction concepts in depth. Students apply these concepts in administration, scoring, and interpreta-

tion of standardized measures of academic functioning. Material Fee As Indicated In The Schedule of Classes (T)

**7520 Professional Ethics and Standards for Psychologists. Cr. 3**

Prereq: admission to counseling psychology program or school and community psychology program. An overview of scientific and professional ethics and standards related to the practice of psychology. (W)

**7560 Psychological Evaluation II. Cr. 4**

Open only to students in school and community psychology, or counseling psychology program. Prereq: EDP 7490. 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. Material Fee As Indicated In The Schedule of Classes (W)

**7610 Child and Adolescent Psychopathology. Cr. 4**

Prereq: admission to school and community psychology, or counseling psychology program. Study of theories of psychopathology in children and adolescents and the application to these theories to practice. Differential diagnosis using currently acceptable classification systems. (W)

**7710 Psychological Evaluation III. Cr. 4**

Open only to students in school and community psychology, or counseling psychology program. Prereq: EDP 7490. Introduction to administration, scoring, use and interpretation of projective assessments of personality and psychopathology. Eight full administrations of one of the following: Rorschach, TAT, or CAT. Material Fee As Indicated In The Schedule of Classes (F)

**7996 Research in Educational Psychology. Cr. 1-8 (Max. 8)**

(Y)

**8210 Fundamental Studies in Educational Psychology I: Learning. Cr. 3**

Prereq: admission to doctoral program in educational psychology. 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. (F)

**8230 Fundamental Studies in Educational Psychology II: Development. Cr. 3**

Prereq: admission to doctoral program in educational psychology. Contemporary theories and research in developmental psychology pertaining to research and practice in clinical and educational settings. (F)

**8250 Fundamental Studies in Educational Psychology IV. Cr. 3-9 (Max. 9)**

Prereq: admission to doctoral program in educational psychology. Advanced study of a specific area in psychology with application to educational practice. Topics to be announced in Schedule of Classes (W)

**8260 Biological Foundations of Affective Behavior. Cr. 3**

Prereq: EDP 8210 and EDP 8230. Biological origins of and treatments for affective behaviors including depression, anxiety, and schizophrenia. Environmental and cultural origins also explored. Applications in both school and therapeutic environments. (W)

**8319 Practicum in Psychotherapy. Cr. 1-2**

Prereq: admission to counseling psychology program; coreq: EDP 7240. Opportunity to provide psychological services (e.g., psychotherapy) to clients under supervision of a Licensed Psychologist or educational psychology professor. (W)

**8320 Internship in Clinical Procedures I. Cr. 1-8 (Max. 8)**

Offered for S and U grades only. Open only to students in school and community psychology, or counseling psychology program. Intern-

ship in one of the organized health care settings cooperating with the University. Diagnostic testing and psychotherapy with supervision of not less than two hours per week by a licensed psychologist employed by the cooperating site. Conferences and seminars; internship experience will equal or exceed 500 hours. (T)

**8330 Internship in School Psychology I. Cr. 1-8 (Max. 8)**

Prereq: admission to school and community psychology program. Offered for S and U grades only. Internship as a school psychologist in an approved school with school-age pupils. Interns under supervision of person holding Michigan School Psychologist Certificate. (T)

**8340 Internship in Clinical Procedures II. Cr. 1-8**

Prereq: admission to Ph.D. program in educational psychology and consent of program coordinator. Offered for S and U grades only. Placement as a psychologist in appropriate organized health care setting under the supervision of a licensed psychologist. (T)

**8350 Internship Supervision. Cr. 1-5**

Prereq: EDP 8320 or 8330 or 8340; and consent of instructor. Case presentation of selected psychology clients for group/individual supervision. (T)

**8360 Internship in School Psychology II. Cr. 1-8 (Max. 8)**

Prereq: admission to school and community psychology program; EDP 8330. Offered for S and U grades only. 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. (T)

**9310 Doctoral Seminar in Educational Psychology. Cr. 3**

Prereq: formal admission to a doctoral program in education. For doctoral majors in other areas of concentration only. An examination of psychological concepts relevant to the development and carrying forward of the work of the schools. (Y)

## EDUCATIONAL SOCIOLOGY (EDS)

**7630 Educational Sociology. Cr. 2-3**

Application of key sociological concepts and knowledge to educational processes in school and society. Basis for advanced specialist work in educational sociology. (T)

**9620 Doctoral Seminar in Educational Sociology. Cr. 3**

Prereq: formal admission to a doctoral program in education. For doctoral majors in other areas of concentration only. Basic concepts of sociology applied to contemporary education. (Y)

## REHABILITATION COUNSELING and COMMUNITY INCLUSION (RCI)

**7120 (RCI 7120) Assessment for Counselors and Rehabilitation. (CED 7120) Cr. 3**

Prereq: RCI 7410, RCI 7420, RCI 7480; or CED 6070, CED 6080. 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. (W)

**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. (Y)

**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. (F)

**7420 Medical Aspects of Disability. Cr. 3**

Prereq: RCI 7410. Types of disabilities, treatment strategies, impact of disability on physical and vocational functioning of persons with disabilities. (W)

**7430 (CED 7150) Counseling Practicum. (AED 7380) Cr. 4**

Prereq: consent of advisor and instructor during semester prior to registration. 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). (T)

**7440 Rehabilitation in Business and Industry. Cr. 2**

Application of research methods to improve policies and services that enhance community inclusion and quality of life of persons with disabilities. (S)

**7450 Employment for Persons with Disabilities. Cr. 3**

Prereq: RCI 7100. 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. (W)

**7460 (CED 7020) Counseling Internship. (AED 7890) Cr. 1-6 (Max. 6)**

Prereq: grade of B or above in RCI 7430, consent of advisor and instructor. Offered for S and U grades only. 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. (Y)

**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. (Y)

**7480 Psychosocial Aspects of Disability. Cr. 3**

Prereq: RCI 7410; RCI 7420; CED 6080 or consent of instructor. 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. (W)

**7510 Trends and Issues in Community Inclusion and Support of People with Disabilities. Cr. 1-6**

Emerging and contemporary issues related to community inclusion and support of persons with disabilities and their families. (Y)

**7515 Rehabilitation Treatment Planning and Intervention for People with Psychiatric Disabilities. Cr. 2**

Prereq: RCI 7410, RCI 7510. 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.

## EDUCATION (ED )

### **5998 Field Studies. Cr. 1-8 (Max. 8)**

Prereq: consent of advisor or instructor. Supervised professional study in field settings. (T)

### **7990 Directed Study. Cr. 1-8 (Max. 8)**

Prereq: written consent of advisor and graduate officer on completed petition and authorization for Directed Study prior to registration. (T)

### **7996 Directed Research. Cr. 1-8 (Max. 16)**

Prereq: written consent of advisor and Dean of Graduate Studies or Graduate Officer on Petition and Authorization for Directed Study prior to registration. Offered for S and U grades only. (T)

### **7998 Field Studies. Cr. 1-8 (Max. 16)**

Prereq: consent of advisor or supervising instructor. Offered for S and U grades only. Supervised professional study in field situations. (T)

### **7999 Terminal Master's Seminar and Essay or Project. Cr. 3**

Offered for S and U grades only. (T)

### **8999 Master's Thesis Research and Seminar. Cr. 1-8 (8 req.)**

Offered for S and U grades only. (T)

### **9989 Doctoral Dissertation Research and Direction. Cr. 1-16 (Max. 30)**

### **9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### **9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

### **9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: ED 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ED 9991. Offered for S and U grades only.

### **9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: ED 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ED 9992. Offered for S and U grades only.

### **9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: ED 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ED 993. Offered for S and U grades only.

### **9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in ED 9991- ED 9994. Offered for S and U grades only.



# College of Engineering

DEAN: Farshad Fotouhi

# Foreword

Graduate education is important to the engineer interested in keeping pace with rapid growth in science and technology and in preparing for changes in job responsibilities. In the midst of greater Detroit's large community of professional engineers, Wayne State University's College of Engineering has an important mission to provide opportunities for study in contemporary areas and the latest developments in technology.

The College of Engineering is a leading research institution in Michigan and the nation. This is reflected in its instructional programs, which are supported both by its own research and by that of other institutions, and in the suitability of its industrial/educational environment for advanced study. Engineering graduate students are drawn both from the upper ranks of graduating seniors in various disciplines and from established engineers interested in pursuing advanced degrees. Criteria for admission are restrictive, and a high standard of performance is expected of successful candidates. In short, the challenges are great, but the potential rewards are equally promising.

## Graduate Engineering Programs

The College of Engineering offers the Master of Science and Doctor of Philosophy degrees in biomedical, chemical, civil, computer, electrical, industrial, mechanical, and materials science and engineering. In addition, a Master of Science may be earned in alternative energy technology, electric-drive vehicle engineering, engineering management, engineering technology, and manufacturing engineering. Graduate certificate programs are also available in a number of areas for additional specialization after completion of an undergraduate or graduate engineering degree. These programs are described generally below and specifically in the subsequent, departmental sections.

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 use these facilities under the supervision of trained professionals.

Excellent research programs are available in this college; graduate students can write a thesis or dissertation based on their participation in these programs to fulfill part of their degree requirements.

Many graduate students pursue their studies in the College while working full- or part-time in local industry, where they have available to them unique facilities not found within the University. Students in such situations are encouraged to pursue their graduate research at their places of employment, under the joint supervision of the faculty advisor and a company representative. Such research may be applicable as credit earned for directed study courses, master's theses, or doctoral dissertations. However, after completion of a Bachelor of Science degree and one or more years of on-the-job experience, additional training at the graduate level is often desirable without participation in a research program, and the College provides an optional master's degree program without a thesis research requirement.

## Graduate Degrees and Certificates

### *MASTER OF SCIENCE in*

*Alternative Energy Technology*  
*Biomedical Engineering*  
*Chemical Engineering*  
*Civil Engineering*  
*Computer Engineering*  
*Computer Science*  
*Electrical Engineering*

*Electric-drive Vehicle Engineering*  
*Engineering Management*  
*Engineering Technology*  
*Industrial Engineering*  
*Manufacturing Engineering*  
*Materials Science and Engineering*  
*Mechanical Engineering*

### *DOCTOR OF PHILOSOPHY in*

*Biomedical Engineering*  
*Chemical Engineering*  
*Civil Engineering*  
*Computer Engineering*  
*Computer Science*  
*Electrical Engineering*  
*Industrial Engineering*  
*Materials Science and Engineering*  
*Mechanical Engineering*

### *GRADUATE CERTIFICATE PROGRAMS in*

*Alternative Energy Technology*  
*Computer Science*  
*Electric-drive Vehicle Engineering*  
*Engineering Management (Bridge Program)*  
*Injury Biomechanics (Bridge Program)*  
*Polymer Engineering*  
*Scientific Computing*  
*Sustainable Engineering*  
*Systems Engineering (Bridge Program)*

## College of Engineering Directory

*Website:* <http://www.eng.wayne.edu/>

Dean: Farshad Fotouhi, Ph.D.

Room 1150, Engineering Building; 313-577-3775

Associate Dean—Academic Affairs: R. Darin Ellis, Ph.D.

Room 1172, Engineering Building; 313-577-3040

Associate Dean—Student Affairs and Minority Programs:

Gerald Thompkins, Ph.D. Room 1170, Engineering Building;  
313-577-3780

Associate Dean—Research: Simon Ng, Ph.D.

Room 1164, Engineering Building; 313-577-3861

Director of Alumni and Corporate Relations: Katora Cole

Room 1158, Engineering Building; 313-577-1306

Business Manager: Scott Frump

Room 3100, Engineering Building; 313-577-3817

Career Planning and Placement: Diane Grimord, Coordinator,

Cooperative Education, 1001 Faculty/Administration  
Building; 313-577-3390

Engineering Technology: C.P. Yeh, Ph.D, Director

4855 Fourth Street; 313-577-0800

Biomedical Engineering: Albert I. King, Ph.D., Chairperson

818 West Hancock; 313-577-1344

Chemical Engineering and Materials Science:

Charles Manke, Ph.D., Chairperson

Room 1100, Engineering Building; 313-577-3800

Civil and Environmental Engineering: Carol Miller, Ph.D.,

Chairperson; Room 2100, Engineering Building; 313-577-3789

Computer Science: Seymour Wolfson, Ph.D.

Interim Chairperson; Room 3010, 5057 Woodward; 313-577-2477



Electrical and Computer Engineering: Yang Zhao, Ph.D.,  
Chairperson; Room 3100, Engineering Building; 313-577-3920

Graduate Certificate Program in Alternative Energy Technology:  
K.Y. Simon Ng, Ph.D., and Jerry Ku, Ph.D., Co-Directors  
Room 1100 Engineering Building; 313-577-3800

Graduate Certificate Program in Polymer Engineering:  
Guanzhao Mao, Ph.D., Director,  
Room 1100, Engineering Building; 313-577-3800

Industrial & Manufacturing Engineering:  
Leslie Monplaisir, Ph.D., Chairperson  
Room 2143, Manufacturing Engineering Building; 313-577-3821

Mechanical Engineering: Walter Bryzik, Ph.D., Chairperson  
Room 2100, Engineering Building; 313-577-3845

Bioengineering Center: King-Hay Yang, Ph.D., Director  
818 W. Hancock; 313-577-1344

Center for Automotive Research: Naiem Henein, Ph.D., Director  
Room 2121, Engineering Building; 313-577-3887

### *College-Wide Faculty*

James Anderson, Adjunct Professor of Engineering Ventures

Electronics Shop  
Room 2140, Engineering Building; 577-3786; Fax: 577-0105  
(e-mail) [eshop@eng.wayne.edu](mailto:eshop@eng.wayne.edu)

Machine Shop  
Room 1410, Engineering Building; 577-3820; Fax: 577-5300  
(e-mail) [mshop@eng.wayne.edu](mailto:mshop@eng.wayne.edu)

### MAILING ADDRESS FOR ALL OFFICES:

College of Engineering,  
Wayne State University,  
5050 Anthony Wayne Drive,  
Detroit, MI 48202-3902

## Research Centers

Opportunities exist at both the graduate and advanced undergraduate levels for students to participate in the programs of the research centers.

### BIOENGINEERING CENTER

The Bioengineering Center is an interdisciplinary group engaged in biomedical research, utilizing the principles of mechanical, chemical, electrical, and computer engineering. Faculty members from the College of Engineering collaborate with colleagues from the Wayne State Medical School in joint efforts to solve both basic and clinical problems. The principal area of research in the Center is injury biomechanics, with major areas of research include trauma biomechanics, the mechanical basis for low back pain, human locomotion studies, and orthopedic biomechanics. Other activities include the development of advanced anthropometric test dummies and impact studies using horizontal accelerator test sleds.

### CENTER FOR AUTOMOTIVE RESEARCH

The Center for Automotive Research coordinates a variety of programs in different automotive areas, such as combustion engines, dynamics, acoustics, vibrations, and electronic controls. The engine research deals with the basic processes of thermodynamics, heat transfer, mass transfer and chemical kinetics which affect the performance, fuel economy, startability and emissions of different types of engines. A fully-instrumented cold room is used for some of these studies. Research is also conducted on diesel engine combustion and alternate fuels. The research consists of extensive theoretical analysis, supported by experimental investigations. The Center com-

bins expertise from the Departments of Mechanical, Chemical, and Electrical and Computer Engineering.

## College Facilities

Wayne State University has been identified as a PACE Partner, a group of fifty universities world-wide who have been selected by the PACE (Partnership for the Advancement of Collaborative Engineering Education) consortium to offer educational programs that are centered around the concepts of product life cycle management and the design, analysis, and planning processes in the artifact of virtual worlds with relevance to real world situations. PACE provides Wayne State students with access to the same state-of-the-art computer software and tools that are used in industry. In addition, opportunities for collaborative project development exist within the College, with other PACE institutions in Michigan, and with universities across the globe. This provides College of Engineering students with an advantage when entering the workforce or when transitioning to new roles following their graduate education.

Stimulating productive research and teaching methods are the goals of the Engineering Computer Center. These goals are met by providing and supporting the latest technologies in computer hardware, software, and networking - including those associated with PACE. All curricula are designed to take advantage of these advancements and students feel the impact of these tools in their coursework. The latest in simulation, analysis, and design software are provided for students to use and master.

College of Engineering facilities include five separate buildings with over 330,000 square feet of classroom, office and laboratory space. The primary home of the College of Engineering is a three-story office building directly attached to a laboratory wing and connected to the Engineering Development Center. This has created a stimulating and productive research and teaching facility for the College. Among these facilities are multimedia classrooms, a comprehensive computer center, electronics and machine shops, 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 WSU, at other colleges and universities, and at industrial locations. The computer facilities include dedicated computer graphics, design, and personal computing hardware and software. The Marvin I. Danto Engineering Development Center, which opened in 2009, provides 80,000 square feet of space dedicated to advanced research and student collaborative projects. This includes the PACE Teaming Center, a classroom that is designed to support student team-based collaboration. The Division of Engineering Technology is housed in a separate building of approximately 24,000 square feet, located at 4855 Fourth Street. This recently remodeled facility houses labs and classrooms, including a teaching machine shop.

## Research Facilities

The College oversees a wide range of undergraduate, graduate, and faculty research laboratories and excellent support facilities, housed in its five-building complex. The Bioengineering Center operates in close collaboration with Wayne's Medical School, employing unique equipment, in particular its own massive horizontal accelerator, to conduct impact studies emphasizing biomechanics. The College's Manufacturing Engineering Building (MEB) is home to the Department of Industrial and Systems Engineering. The most striking feature of MEB is its multi-story High Bay Lab, Wayne's largest research space, capable of accommodating full-scale production machinery. The MEB includes eighteen other labs currently in use by faculty from several departments. The Marvin I. Danto Engineering Development Center, which opened in 2009, provides significant new research space that focuses on interdisciplinary research and collaboration. EDC laboratories are focused on the urban infrastructure, alternative energy and advanced propulsion systems, nanotechnol-

ogy, and smart sensors. The main Engineering Building, one of the largest structures on campus, houses specialized labs of many types. The Center for Automotive Research conducts interdisciplinary investigations of diesel and gasoline engines in a series of specialized test cells, including the engineering cold room — a fully-instrumented lab capable of reaching a temperature of minus-40 C. The College's anechoic chamber is a walk-in scale facility dedicated to advanced research on vibrations and noise, particularly in automobiles. Other labs house research on diesel and gasoline combustion, structures and earthquake systems (utilizing the two-story structures lab, capable of testing multi-ton building components), soil mechanics, pollution and remediation models, polymers and composite materials, environmental kinetics, electron microscopy, catalysis, surface science, biomedical sciences, high-performance computing, neural networks, communication and information systems, materials/fluids/metallurgy testing, solid-state electronics, robotics and computer-aided manufacturing, microprocessors, optical computing, and molecular beams and laser light scattering. Of particular note is the College's Smart Sensors Integrated Microsystems (SSIM) Laboratory, along with a Class 10 clean room, built with a \$7.0 million equipment grant from Delphi Automotive and a \$3.0 million investment by Wayne State University for infrastructure development. This investment provides the College of Engineering with one of the nation's leading microsystems research laboratories. The College's research equipment is maintained, modified, and, in many cases, constructed by its in-house electronics shop and machine shop.

## Accreditation

All of the undergraduate curricula of the Division of Engineering leading to a Bachelor of Science degree in engineering are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET) (111 Market Pl., Suite 1050, Baltimore, MD 21202, 410) 347-7700. Electrical/Electronic Engineering Technology and Mechanical Engineering Technology programs are accredited by the Technology Accreditation Commission (TAC) of ABET (111 Market Pl., Suite 1050, Baltimore, MD 21202, 410) 347-7700. Details of these programs are provided in the Undergraduate Bulletin. Curriculum accreditation is based upon careful periodic appraisal of the faculty, educational program, 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.

# Academic Regulations

For complete information regarding academic rules and regulations of the Graduate School, see the section of this bulletin beginning on page 18. The following additions and amendments pertain to the College of Engineering.

## Matriculation

After receiving credentials from the Office of Admissions, and before registration, a student should contact the graduate advisor in his/her major department (see the following list) for details of program planning and to discuss requirements and course work.

### GRADUATE ADVISORS

#### Alternative Energy Technology

Dr. Simon Ng; 313-577-3805

(e-mail) [sng@eng.wayne.edu](mailto:sng@eng.wayne.edu)

Dr. Jerry Ku; 313-577-3814

(e-mail) [jku@eng.wayne.edu](mailto:jku@eng.wayne.edu)

#### Biomedical Engineering

Namrata Murthy; 313-577-1344

(e-mail) [bme@eng.wayne.edu](mailto:bme@eng.wayne.edu)

#### Chemical Engineering:

Dr. Yinlun Huang; 313-577-3771

(e-mail) [yhuang@chem1.eng.wayne.edu](mailto:yhuang@chem1.eng.wayne.edu)

#### Civil and Environmental Engineering:

Dr. H. C. Wu; 313-577-0745

(e-mail) [hcwo@eng.wayne.edu](mailto:hcwo@eng.wayne.edu)

#### Computer Science:

#### Electrical and Computer Engineering:

Dr. Nabil Sarhan; 313-577-2860

(e-mail) [nabil@wayne.edu](mailto:nabil@wayne.edu)

#### Electric-drive Vehicle Engineering:

Dr. Simon Ng; 313-577-3805

(e-mail) [sng@eng.wayne.edu](mailto:sng@eng.wayne.edu)

Dr. Jerry Ku; 313-577-3814

(e-mail) [jku@eng.wayne.edu](mailto:jku@eng.wayne.edu)

#### Engineering Management:

Dr. Leslie Monplaisir; 313-577-1645

(e-mail) [monpla@eng.wayne.edu](mailto:monpla@eng.wayne.edu)

#### Engineering Technology

Dr. C.P. Yeh; 313-577-0800

(e-mail) [yeh@eng.wayne.edu](mailto:yeh@eng.wayne.edu)

#### Industrial and Systems Engineering:

Dr. Ratna Chinnam; 313-577-3821

(e-mail) [rchinnam@mie.eng.wayne.edu](mailto:rchinnam@mie.eng.wayne.edu)

#### Materials Science and Engineering:

Dr. Charles Manke; 313-577-3849

(e-mail) [cmanke@eng.wayne.edu](mailto:cmanke@eng.wayne.edu)

#### Mechanical Engineering:

Dr. Trilochan Singh; 313-577-3845

(e-mail) [tsing@me1.eng.wayne.edu](mailto:tsing@me1.eng.wayne.edu)

#### Polymer Engineering

Dr. Guang-Zhao Mao; 313-577-3804

(e-mail) [gzmao@che.eng.wayne.edu](mailto:gzmao@che.eng.wayne.edu)

## Scholarships, Assistantships and Fellowships

A variety of financial resources are available to support full-time study, including graduate research and teaching assistantships and various fellowships. For general sources of graduate financial aid,

see the section on Graduate Financial Assistance, beginning on page 26. Requests for such support should be included with the Graduate Application.

## Scholarship, Academic

A graduate degree is evidence of scholarly achievement, academic excellence, critical and creative abilities, the capacity to apply and interpret what has been learned, and proper use of the work of others. Continuance in graduate status is contingent on satisfactory scholarship with grades of 'B' or better. Every effort is made to assist the student whose work suffers as a result of conditions beyond his/her control.

Graduate students are required to earn a g.p.a. of 3.0 ('B' average) or better in all graduate-level subjects taken at WSU in order to satisfy degree requirements. Students whose cumulative g.p.a. falls below 3.0 are placed on probation, and the performance of these students is closely monitored by the departmental graduate committee. Students who fail to remediate this probationary status within eight credits after being placed on probation are subject to termination from the graduate program.

Any grade lower than 'B-minus' in a core course MUST be repeated. (The Industrial and Systems Engineering Department requires students to repeat core courses in which they have received a grade of 'B-minus' or lower. The Biomedical Engineering Department will not count any course with a grade lower than a 'B-minus' towards degree requirements.) No more than two courses may be repeated in a graduate program (the Electrical and Computer Engineering and the Mechanical Engineering Departments permit the repetition of only one course), and a student must have the appropriate approvals BEFORE the repeat registration takes place. These two repeats may consist of a second attempt of two separate courses or two repeat attempts of a single course. Per University policy, any course in which a mark appears on the student's transcript (including WN, WP, or WF) counts as an attempt to earn credit in that course. These attempts are therefore factored into the assessment of allowed repeats unless an exception is granted during the semester of the withdrawal (see below). 'F' grades earned while in the College of Engineering may be the basis for immediate termination. Consult each department for additional requirements.

All course work must be completed in accordance with the academic procedures of the College of Engineering and the Graduate School governing graduate scholarship and degrees; see section beginning on page 32. University rules require an overall g.p.a. of 3.0 or higher for graduation, in all graduate work completed at Wayne State.

## Withdrawal from Courses

General rules and procedures governing withdrawal from courses may be found under Drop/Add, page 29. Engineering students are expected to assess early in the semester if they have appropriate time and background to successfully complete a course. Therefore, following University policy, all courses for which a grade or mark (including WN, WP, and WF) appears on the transcript will count as an attempt at a course. Students may drop a course within the first four weeks of the semester without a notation appearing on the transcript (please refer to the Academic Calendar for deadlines, see page 4). Starting with the fifth week of the semester, a withdrawal will be noted on a student's transcript. If a student feels that extenuating circumstances beyond his or her control justify the withdrawal and support its not being counted as an attempt at the course, a petition must be submitted for consideration to the Associate Dean for Academic Affairs during the semester in which the course is taken. If the petition is approved, the withdrawal mark will remain on the transcript but a notation will be made in the student's advising record to not count it as an attempt for assessment of allowed repeats.

## Plan of Work

Students who have been admitted into a graduate program in the College of Engineering are required to meet with their graduate program advisor before registering for their first term, and then to enroll in those courses mutually decided upon. During the first semester of their graduate program, in consultation with their graduate advisor, all graduate students must develop a Plan of Work that determines their anticipated schedule for each term.

Students who fail to meet with their graduate advisor before registration or who do not have an approved Plan of Work may be administratively withdrawn from their classes if, in the opinion of the graduate program advisor, they are not taking classes appropriate to their program.

If a student has been admitted to one graduate program and decides not to pursue that program, the student MUST obtain admission to another graduate program, or he/she must withdraw from the University. To obtain admission into another program, the student must meet all the admission requirements for that program and must provide the required admission documents. Approval of the transfer of program by the original admitting program is required. International students on a student visa must also amend their I-20 form at the University Office of International Students and Scholars to reflect the change in program.

## Directed Study

Independent study may be authorized and applied to completion of degree requirements provided the area of interest is an integral part of the student's graduate program and is not covered by scheduled courses. Students who elect a directed study are required to submit a Directed Study Authorization Form, which includes a description of the proposed directed study, with the necessary signatures, prior to registration.

## Program Requirements (M.S. and Certificate Programs)

### *College of Engineering M.S. Requirements*

ALTERNATIVE ENERGY TECHNOLOGY: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

BIOMEDICAL ENGINEERING: min. 3.0 g.p.a. for admission; 34 cr. min. for M.S.; thesis/project min. 8 credits

CHEMICAL ENGINEERING: min. 2.8 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

CIVIL ENGINEERING: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

COMPUTER ENGINEERING: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

COMPUTER SCIENCE: min. 3.0 g.p.a. for admission; 33 cr. min. for M.S.; thesis/project min. 8 credits

ELECTRICAL ENGINEERING: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

ELECTRIC-DRIVE VEHICLE ENGINEERING: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

ENGINEERING MANAGEMENT: min. 3.0 g.p.a. for admission; 42 cr. min. for M.S.; (Plan B. only)

ENGINEERING TECHNOLOGY: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 4 credits

INDUSTRIAL ENGINEERING: min. 2.8 g.p.a. for admission; 32-40 cr. min. for M.S.; thesis/project min. 8 credits

MANUFACTURING ENGINEERING: min. 2.8 g.p.a. for admission; 32-40 cr. min. for M.S.; thesis/project min. 8 credits

MATERIALS SCIENCE & ENGINEERING: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

MECHANICAL ENGINEERING: min. 3.0 g.p.a. for admission; 32 cr. min. for M.S.; thesis/project min. 8 credits

### *College of Engineering Certificate Program Requirements*

ALTERNATIVE ENERGY TECHNOLOGY: min. 3.0 g.p.a. for admission; 12 cr. min.

ELECTRIC-DRIVE VEHICLE ENGINEERING: min. 2.7 g.p.a. for admission; 12 cr. min.

ENGINEERING MANAGEMENT: min. 3.0 g.p.a. for admission; 18 cr. min

INJURY BIOMECHANICS: min 3.0 gpa for admission; 16 cr. min.

POLYMER ENGINEERING: min. 3.0 g.p.a. for admission; 12 cr. min.

SCIENTIFIC COMPUTING: min. 3.0 g.p.a. for admission; 12 Cr. min.

SUSTAINABLE ENGINEERING: min 3.0 g.p.a. for admission; 15 cr. min

SYSTEMS ENGINEERING: min. 3.0 g.p.a. for admission; 12 cr. min

## MASTER OF SCIENCE PROGRAMS

The Master of Science is offered in alternative energy technology, biomedical, chemical, civil, computer, and electrical engineering; engineering management, engineering technology; industrial, manufacturing, and mechanical engineering; and materials science and engineering.

**Admission** to these programs is contingent upon admission to the Graduate School, for requirements, see page 18. Applicants to the engineering master's degree programs must also satisfy the following criteria.

In addition to the minimum requirement for admission of an overall grade point average of 2.8 from an institution accredited by the Accreditation Board for Engineering and Technology (ABET), a minimum grade point average of 2.8 in all junior and senior year (upper division) courses is required. Applicants from abroad will be judged on the basis of their academic record and on the credentials of the school from which they graduated. Individual departments and interdisciplinary programs may require a higher minimum upper division or cumulative g.p.a.; please refer to the departmental sections of the Graduate Bulletin. Regular admission may also be granted to applicants with undergraduate degrees from regionally (non-ABET) accredited institutions in engineering, physics, chemistry, mathematics and computer science who meet the equivalent of the above minimum standards. Additional course work will generally be required of such applicants.

## Degree Requirements

The University's minimum requirement for the master's degree is thirty-two credits. Some programs in Engineering require more than this minimum. Master of Science degrees are offered under the following degree plans approved by the College:

**Plan A:** A minimum of twenty-four to twenty-six credits in course work, a minimum of eight credits of thesis, and a seminar or an oral presentation on the thesis research.

**Plan B:** A minimum of thirty-two to forty-two credits, including a four to six credit project. (Engineering Management and Engineering Technology ONLY.)

**Plan C:** A minimum of thirty-two to forty credits in course work. A thesis is not required.

## — Major Credits

Credits earned in the student's major field are designated as major credits. Of the minimum of thirty-two credits required for the master's degree, at least one-half of the course work, exclusive of thesis credit, must be in the major field. At least six credits in the major must be in upper level graduate courses, as designated by the graduate program.

## — Thesis Degree Plan

Students who elect the thesis degree plan (Plan A) are required to file a *Thesis Outline Approval Form* for approval by the advisor and the program's Graduate Officer before writing the thesis. Information about the thesis style, format and number of copies required can be found in the Graduate School section of this bulletin, page 36. Final recommendation of approval for the thesis requires an oral defense of the thesis material in the presence of a departmental faculty committee of at least three persons, including the advisor and one faculty member from outside the department.

## Transfer Credits

Every Wayne State student pursuing the M.S. degree must complete at least twenty-four credits in residence. As a privilege, a student may file a Petition for Transfer of Graduate Credit, provided that the credits were earned in residence at another accredited graduate school, are certified as graduate credit with grades of 'B' or better on an official transcript, and are certified by the advisor to be acceptable in the student's degree program. Courses transferred may NOT have been used as applicable credit toward any other degree. In order to transfer grades from another institution, that institution has to be listed on the student's WSU Admissions Application, or specifically mentioned in correspondence to the College prior to matriculation. Special documentation is necessary to transfer credits earned outside of North America. A student whose Petition to transfer credits is denied may still receive credit by examination (see page 32).

All transcripts supporting the transfer of credits must be for credits earned prior to the student's first semester at WSU. While enrolled in a degree program in the College of Engineering, graduate-level courses taken at another institution may not be applicable to the College of Engineering degree without approval prior to registration for any such courses. A Transfer of Credit request should not be submitted before the completion of eight credits in residence at Wayne State. All credits transferred must conform to the six-year time limitation for completion of requirements (see page 41).

Since twenty-four credits of any M. S. program must be earned at WSU, the number of transfer credits from a related, uncompleted graduate program at another institution are limited to eight credits for a thirty-two credit M.S. program and twelve credits for a thirty-six credit M.S. program. Exceptions to this limit are made only for identified collaborative programs with partner universities.

## Cross-Registration Opportunities

Students are encouraged to consider incorporating into their course of study up to two courses elected in any of three exchange arrangements: the Michigan Intercollegiate Graduate Studies Program (MIGS) (see page 20), the Wayne State — University of Windsor Exchange (see page 20), and Dual Enrollment at the University of Michigan (see page 32). The latter enrollment may be utilized at both the Ann Arbor and Dearborn campuses. Consult the graduate advisor and the Dean's Office for information and application forms applicable to these programs.

## Doctor of Philosophy Degrees in Engineering

The Doctor of Philosophy (Ph.D.) degree is offered by the College of Engineering in the major areas of: biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, industrial engineering, materials science and engineering, and mechanical engineering.

**Admission** to the doctoral programs of the College is contingent upon admission to the Graduate School; for requirements, see page 18. For admission into a Ph.D. engineering program, the student's overall grade point average must be 3.2 or better, with a 3.5 in the last two years as an undergraduate student if being admitted directly from a bachelor's program. Students who do not satisfy these minimum standards will not be considered for admission to the program until they have completed a master's degree and have earned a grade point average in courses taken for graduate credit that is not less than 3.5. Individual departments may have higher admission requirements.

Generally, students applying for admission to the Ph.D. program should have first achieved an M.S. degree. Students completing their M.S. degree programs who wish to enter the Ph.D. program must have a minimum grade point average of 3.5 at the graduate level.

**DEGREE REQUIREMENTS:** A minimum of ninety credits beyond the bachelor's degree is required for the Ph.D. program, including thirty credits for the dissertation. The thirty credit dissertation registration requirement is fulfilled by registering for the courses 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively) offered under various subject area codes, in consecutive academic year semesters. For specific course requirements, students should consult the departmental sections of this bulletin, which follow.

There are no general foreign language requirements for the Ph.D. degree. Specific requirements can be made by the Ph.D. advisory committee and are designed to suit individual Ph.D. applicants.

If the student fails to meet the Ph.D. requirements, he/she may transfer appropriate credits toward the Master of Science degree program in the discipline in which credits were accrued.

Specific details pertaining to Ph.D. course work and other requirements are given in the *Handbook for Doctoral Students and Advisors*. This document, available from the Graduate School, should be carefully reviewed by all doctoral students.

# Degree and Certificate Programs Offered by the College of Engineering

## Sustainable Engineering Graduate Certificate Program

This certificate program provides specialized formal courses for current students and working engineers. Those enrolled in the program will learn the fundamentals of sustainable engineering, extend their knowledge in the application of sustainable engineering principles, and maintain their technical competitiveness by broadening their sustainability expertise.

**Admission** to this program is contingent upon admission to the Graduate School, for requirements, see page 18. Students currently enrolled in a graduate program in the College of Engineering, or students who have already completed a Bachelor's degree in engineering can be admitted to the program. Admission into the graduate program requires a minimum grade point average of 3.0.

**CERTIFICATE REQUIREMENTS:** Students must complete fifteen credits of sustainable engineering courses consisting of seven credits of required courses and eight credits of electives. A maximum of eight credits may be counted towards both this certificate program and a related M.S. or Ph.D. program. All requirements must be completed within three years with a minimum 3.0 g.p.a. required in the certificate coursework.

### REQUIRED COURSES

- STE 6100 -- Introduction to Sustainable Engineering (CHE 6100): Cr. 3
- STE 6270 -- (C E 6270) Env. Mgt. and Sustainable Development: Cr. 4

### ELECTIVE COURSES

- C E 5410 -- Hydrogen Economy & Hydrogen Infrastructure Needs: Cr. 4
- C E 5420 -- Transportation Energy Choices: Cr. 4
- C E 5995 -- Special Topics in Civil Engineering I: Cr. 4
- C E 6130 -- Open Channel Hydraulics: Cr. 4
- C E 6150 -- Hydrologic Analysis & Design: Cr. 4
- C E 6580 -- Geoenvironmental Engineering I: Cr. 4
- C E 7995 -- Special Topics in Civil Engineering II: Cr. 4
- CHE 5110 -- Fundamental Fuel Cell Systems: Cr. 4
- CHE 5700 -- Process & Materials Safety for Alt. Energy Technology: Cr. 4
- CHE 6520 -- Chemodynamics: Environmental Transport: Cr. 3
- CHE 6570 -- Safety in Chemical Process Industry: Cr. 3
- CHE 6610 -- Risk Assessment: Cr. 3
- CHE 6810 -- Chemical Engineering Research Project: Cr. 4
- I E 6310 -- Lean Operations and Manufacturing: Cr. 2
- I E 6405 -- Integrated Product Development (EVE 5600)(AET 5600): Cr. 4
- I E 7325 -- Supply Chain Management: Cr. 4
- M E 5120 -- Fundamentals of Alt. Energy Technology: Cr. 4
- M E 5330 -- Adv. Thermal Fluid Syst. Design: Cr. 4
- M E 5820 -- Thermal Environmental Engineering: Cr. 4

For additional information, contact:

- Professor Yinlun Huang: [yhuang@wayne.edu](mailto:yhuang@wayne.edu), or
- Professor Carol Miller: [cmiller@eng.wayne.edu](mailto:cmiller@eng.wayne.edu).

## COURSES OF INSTRUCTION (STE)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to gradu-

ate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**6100 (STE 6100) Introduction to Sustainable Engineering. (CHE 6100) Cr. 3**

Social, environmental, economical, and technological perspectives relevant to the design, operation and management of engineering activities. Multiple perspectives addressed from a system sustainability view point. (Y)

**6270 (C E 6270) Environmental Management and Sustainable Development. (STE 6270) Cr. 4**

Prereq: C E 4210. Engineering design and development within sustainability constraints; theoretical, regulatory, and practical implications; Detroit and global applications. (Y)

## ALTERNATIVE ENERGY TECHNOLOGY PROGRAMS

Office: 1100 Engineering; 313-577-3800

Co-Directors: K.Y. Simon Ng, Ph.D., and Jerry Ku, Ph.D.

Website: <http://www.eng.wayne.edu/page.php?id=1505>

*GRADUATE CERTIFICATE in Alternative Energy Technology*

*MASTER OF SCIENCE in Alternative Energy Technology*

The Alternative Energy Technology (AET) programs are interdisciplinary, involving faculty from the Departments of Chemical Engineering and Materials Science, Civil and Environmental Engineering, Electrical and Computer Engineering, Industrial and Systems Engineering, and Mechanical Engineering. These programs were established in 2005, and developed in close cooperation with governmental agencies, industry, and Next-Energy. The mission of the AET program is to educate and prepare the technical and scientific workforce for emerging alternative energy technologies; to promote and mobilize/align available resources to develop interdisciplinary research programs; and to disseminate technical information and raise public awareness on emerging AETs.

### Certificate Program in Alternative Energy Technology

This program is designed to prepare the scientific and technological workforce for the emerging alternative energy technologies. It offers an efficient way to obtain a certified level of training, especially for working engineers and researchers. It may be taken as a free-standing program or concurrently with a master's degree program.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The program will be open to students with a Bachelor's degree in engineering, chemistry, and physics, and in other mathematics-based sciences in exceptional cases.

**CERTIFICATE REQUIREMENTS:** The Alternative Energy Technology Graduate Certificate requires a minimum of twelve credits. The core course, AET 5120, is required, and a maximum of four credits is allowed in Research or Directed Studies. Certification procedures in place in WSU's Graduate School will be followed and students must earn a cumulative g.p.a. of at least a 3.0. Should a student become interested later in pursuing the master's degree after completing the graduate certificate, up to nine of the twelve certificate credits can be transferred toward the master's degree.

## Master of Science in Alternative Energy Technology

The Master of Science program is open to students with a bachelor's degree in engineering, and in other mathematics-based sciences in exceptional cases. Admission to this program is contingent upon admission to the Graduate School. Grade Point Average for regular admission to M.S. Degree Program is 3.0 or above. Qualified admission (2.50-3.0) is possible if applicant has significant professional experience. No other specific admission requirements are needed, however, letters of recommendation, statement of objectives, and Graduate Record Examination (GRE) scores are encouraged to aid the admission evaluation process.

**DEGREE REQUIREMENTS:** This Master of Science degree is offered under the following options:

**Plan A:** Thirty-two credits, including an eight-credit thesis.

**Plan C:** Thirty-two credits of course work in an approved AET Plan of Work.

Requirements for both options include at least twenty-four credits in Alternative Energy Technology courses and at least eight credits of 7000-level course work. The 7000-level course requirements can be satisfied through directed study, directed research, or thesis credits or approved classes from other engineering departments. Both options require two core courses: AET 5110 and AET 5120. Students pursuing Plan A are excluded from Research (AET 8996) and Directed Study (AET 7990) credits. All course work must be completed in accordance with the regulations of the Graduate School and the College of Engineering governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

## COURSES OF INSTRUCTION (AET)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**5110 (EVE 5130) Fundamental Fuel Cell Systems. (M E 5110) (CHE 5110) Cr. 4**

Prereq: senior standing in science or engineering discipline. 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. (F)

**5120 (M E 5120) Fundamentals of Alternative Energy Technology. Cr. 4**

Prereq: senior standing in science or engineering discipline. Input-output analysis, thermodynamic efficiency and availability, energy balances, economics and environmental considerations. Fuel cell examined from energy efficiency perspective. Photovoltaics, wind power, biomass conversion technologies. (W)

**5150 (EVE 5150) Advanced Energy Storages. Cr. 4**

Open only to engineering graduate students and undergraduates with senior standing; others by consent of instructor. Fundamentals of all major energy storage methods, including storage of energy as heat, in phase transitions and reversible chemical reactions, and in organic fuels and hydrogen; principles of energy storage in mechanical, electrostatic and magnetic systems. (F,W)

**5250 (M E 5330) Alternative Energy Technology System and Design. (EVE 5700) (AET 5250) Cr. 4**

Prereq: AET 5120 or consent of instructor. Topics such as: batteries, flywheels, capacitors, motors, controllers, power management, heat dissipation, systems containment, manufacturing processes, systems dynamics. Lectures and design projects. (F)

**5310 (EVE 5120) Fundamentals of Battery Systems for Electric and Hybrid Vehicles. (AET 5310) (M E 5215) Cr. 4**

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. (W)

**5325 (ECE 5325) Smart Sensors and Fuel Cells. Cr. 4**

Prereq: senior standing in science or engineering discipline. Signal conditioning circuits, AD/DA conversions, and decision-making circuits suitable for custom integrated circuit solutions to create a smart fuel cell. Introduction of smart sensors for monitoring hydrogen, oxygen, and other gases in a fuel cell system. (F)

**5330 (EVE 5430) Modeling and Control of Power Electronics and Electric Vehicle Powertrains. (ECE 5330) Cr. 4**

Prereq: senior standing in science or engineering discipline. Basic methodologies for modeling, control system design, system coordination, and optimization of renewable power sources and power electronics systems. (B)

**5410 (C E 5410) The Hydrogen Economy and Hydrogen Infrastructure Needs. (M E 5850) Cr. 4**

Prereq: senior standing in science or engineering discipline. The post-fossil fuel energy paradigm, in context of the developing hydrogen infrastructure; analysis of government reports and scientific literature; discussion regarding the championed (and contested) vision of a global Hydrogen Economy. (W)

**5420 (C E 5420) Transportation Energy Choices. (M E 5870) Cr. 4**

Prereq: senior standing in science or engineering discipline. Technological innovations and barriers impacting energy production, storage, and conversion in transportation applications. Fuel life cycle case studies (bioethanol, syncrude, etc.). (W)

**5600 (I E 6405) Alternative Energy Product Realization System. (EVE 5600) Cr. 4**

Prereq: senior standing in science or engineering discipline. Identification of a strategy for application of technology in the marketplace; application development, integration into vehicle production, concurrent engineering manufacturing issues, quality and testing in manufacturing. (F)

**5640 Energy and the Environment. (EVE 5640) Cr. 4**

Prereq: senior standing in engineering or math-based science program. Sustainability problems of our present energy systems and of potential solution in utility and transportation sectors. Energy evolution and decarbonization process from fossil fuels. Impacts of greenhouse gas emissions. Principles of renewable energy systems. (F)

**5700 (CHE 5700) Process and Materials Safety for Alternative Energy Technology. Cr. 4**

Prereq: senior standing in science or engineering discipline. Fundamentals concerning fires and explosions, control strategies to prevent accidents, fault tree analysis to optimize control strategies, and risk analysis. Regulations and standards relevant to the design, manufacture, and operation of fuel cell and reforming processes. (W)

**5810 Power Management for Advanced Energy Storage Systems and its Applications. Cr. 4**

Prereq: ECE 4470. Operating principles and modeling of energy storage techniques; control and power management, power electronic converters, electric machines, and power systems; power manage-

ment strategies of hybrid energy systems including HEV and alternative energy systems. (F,W)

**7410 Alternative Fuels: Properties, Processing, and Characterization. (CHE 7410) Cr. 4**

Prereq: written consent of advisor and AET Program Director. Exploration of the latest alternative fuels: their physical and chemical properties, production technologies, and standardization characterization tests. (F)

**7990 Directed Study. Cr. 1-4**

Prereq: written consent of instructor. Independent projects on subjects of interest in advanced energy technology. (T)

**7991 Internship in Industry. Cr. 1-4**

Prereq: written consent of advisor and AET program director. Offered for S and U grades only. Industrial internship in alternative energy technology. (T)

**7995 Special Topics in Alternative Energy Technology. Cr. 1-4**

Special topics which support the AET Program. (B)

**8996 Directed Research. Cr. 1-4**

Prereq: written consent of instructor. Independent research projects. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: written consent of advisor. (T)

## ELECTRIC-DRIVE VEHICLE ENGINEERING PROGRAMS

Office: 1100 Engineering; 313-577-3800

Co-Directors: K.Y. Simon Ng, Ph.D., and Jerry Ku, Ph.D.

Website: <http://www.eng.wayne.edu/page.php?id=5909>

*GRADUATE CERTIFICATE in Electric-drive Vehicle Engineering*

*MASTER OF SCIENCE in Electric-drive Vehicle Engineering*

The Electric-drive Vehicle Engineering (EVE) programs are interdisciplinary, involving faculty from the Departments of Chemical Engineering and Materials Science, Electrical and Computer Engineering, Industrial and Systems Engineering, and Mechanical Engineering. These programs were established in 2009, and developed in close cooperation with governmental agencies, industry, and the U.S. Department of Energy. The mission of the EVE program is to educate and prepare the technical and scientific workforce for the emerging electric-drive vehicle industry; to promote and mobilize/align available resources to develop interdisciplinary research programs; and to disseminate technical information and raise public awareness on the emerging electric-drive vehicle technology.

## Graduate Certificate in Electric-drive Vehicle Engineering

This program is designed to prepare the scientific and technological workforce for the emerging electric-drive vehicle engineering field. It offers an efficient way to obtain a certified level of training, especially for working engineers and researchers. It may be taken as a free-standing program or concurrently with a master's degree program.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The program will be open to students with a Bachelor's degree in engineering, chemistry, and physics, and in other mathematics-based sciences in exceptional cases.

**CERTIFICATE REQUIREMENTS:** The Electric-drive Vehicle Engineering Graduate Certificate will require a minimum of twelve credits. The core course EVE 5110 is required, and a maximum of four credits is allowed in Research or Directed Studies. All course work must be completed in accordance with the regulations of the Graduate School and the College of Engineering governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively. Should a student become interested later in pursuing the proposed master's degree after completing the graduate certificate, eight of the twelve certificate credits can be transferred toward the master's degree.

## Master of Science in Electric-drive Vehicle Engineering

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, the Grade Point Average required for regular admission to M.S. degree program is 3.0 or above. Qualified admission (2.5 - 3.0) is possible if an applicant has significant relevant professional experience. The program will admit students with Bachelor's degrees or the equivalent in engineering from an accredited college or university. Students with mathematics-based science degrees will be considered for admission on a case-by-case basis. No other specific admission requirements are needed, however, letters of recommendation, a statement of objectives, and Graduate Record Examination (GRE) scores are encouraged to aid the admission evaluation process.

**DEGREE REQUIREMENTS:** This Master of Science degree is offered under the following options:

**Plan A:** Thirty-two credits, including an eight-credit thesis.

**Plan C:** Thirty-two credits of course work in an approved EVE Plan of Work.

Requirements for both options include at least twenty-four credits in Electric-drive Vehicle Engineering courses and at least eight credits of 7000-level or higher course work. The 7000-level or higher course requirements can be satisfied through EVE courses, directed studies (EVE 7990), directed research (EVE 8996), or thesis credits (EVE 8999) of EVE-related projects, or approved 7000-level or higher classes from other departments. Both options require two core courses: EVE 5110 and EVE 5120. All course work must be completed in accordance with the regulations of the Graduate School and the College of Engineering governing graduate scholarship and degrees; see sections beginning on pages 32 and 154.

## COURSES OF INSTRUCTION (EVE)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5110 (EVE 5110) Fundamentals of Electric-drive Vehicle Engineering. (M E 5115) Cr. 4

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. General background of hybrid and electric vehicles related technologies; energy analysis; and unified modeling approach. Hybrid powertrain architectures, transmission, and on-board energy storage. Overview of electric machines, fuel cells, and future applications. (F)

### 5120 (EVE 5120) Fundamentals of Battery Systems for Electric and Hybrid Vehicles. (AET 5310) (M E 5215) Cr. 4

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. (W)

### 5130 (EVE 5130) Fundamentals of Fuel-cell Powered Systems for Transportation. (AET 5110) (CHE 5110) (M E 5110) Cr. 4

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Fundamental process and materials aspect of fuel cell technology, reforming of hydrocarbon fuels to hydrogen, and application of fuel cell for transportation. Fuel cell types, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. (F)

### 5150 (EVE 5150) Advanced Energy Storages. (AET 5150) Cr. 4

Open only to engineering graduate students and undergraduates with senior standing; others by consent of instructor. Fundamentals of all major energy storage methods, including storage of energy as heat, in phase transitions and reversible chemical reactions, and in organic fuels and hydrogen; principles of energy storage in mechanical, electrostatic and magnetic systems. (F,W)

### 5310 (EVE 5310) Electric-drive Vehicle Modeling and Simulation. (M E 5315) Cr. 4

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Overall energy conversion, storage, utilization and optimization of complete vehicle systems. General models of IC engine, electric machine, energy storage, and power flow processes in hybrid and electric vehicles by Matlab/Simulink, dSPACE, GT-Drive, AVL/Cruise. (W)

### 5410 (ECE 5410) Power Electronics and Control. (EVE 5410) Cr. 4

Prereq: ECE 4330 or equivalent; open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Control of electric energy using solid-state devices, diodes, thyristors, triacs; mathematical analysis of circuits containing these devices; power converters and control; solid-state drives for motor control. Applications to electric-drive vehicles. (S)

### 5430 (EVE 5430) Modeling and Control of Electric-drive Powertrains. (AET 5330) (ECE 5330) Cr. 4

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Dynamic modeling and control of electric-drive powertrains, including electronics, charging structure, battery systems, motors, engines, transmission, and power regeneration. Powertrain subsystem models and their integration and control method will be developed. (F)

### 5450 (EVE 5450) Control and Optimization for Integrated Electric-drive Vehicle Systems. (ECE 5450) Cr. 4

Prereq: EVE 5430; open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. 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. (W)

### 5600 (I E 6405) Electric-drive Vehicle Product and Infrastructure Development. (EVE 5600) (AET 5600) Cr. 4

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Integration of design, development, and deployment processes, efficient operation of heterogeneous and complex design considerations, and proactive risk identification and management caused by technology and infrastructure uncertainties. (F)



**5620 (EVE 5620) Energy Economics and Policy. (CHE 5620) Cr. 4**

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Demand for energy, energy supply, energy markets, and public policies affecting energy markets. Coal, oil, natural gas, electricity, and nuclear power sectors and examines energy tax, price regulation, deregulation, energy efficiency and emission control policies. (W)

**5640 (AET 5640) Energy and the Environment. (EVE 5640) Cr. 4**

Prereq: senior standing in engineering or math-based science program. Sustainability problems of our present energy systems and of potential solution in utility and transportation sectors. Energy evolution and decarbonization process from fossil fuels. Impacts of greenhouse gas emissions. Principles of renewable energy systems. (F)

**5700 (M E 5330) Electric-drive Vehicle Capstone Design. (EVE 5700) (AET 5250) Cr. 4**

Prereq: EVE 5110, and EVE 5310 or EVE 5430; open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. 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. (W)

**5810 (EVE 5810) Power Management for Advanced Energy Storage Systems and its Applications. (AET 5810) 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. (F,W)

**5995 Special Topics in Electric-drive Vehicle Engineering. Cr. 4 (Max. 16)**

Maximum accumulated credits in Special Topics will be determined by program director. Special subject matter; topics announced in Schedule of Classes. (T)

**7110 (EVE 7110) Materials Science Aspects of Lithium Ion Batteries. (CHE 7110) Cr. 4**

Prereq: B.S. degree in an engineering or math-based science program. Fundamental understanding of the role of advances in materials science and engineering to the development of these high energy batteries. Details on the novel synthesis of these new materials together with their physical and electrochemical characterization. (S)

**7320 (EVE 7320) Electric-drive Vehicle Thermal Management. (M E 7320) Cr. 4**

Prereq: EVE 5110 and EVE 5310; B.S. degree in an engineering or math-based science program. Numerical simulation of thermal management scenarios for electric drive battery to ensure optimum electrochemical performance of cell charge acceptance, power and energy capability, reliability, and cycle life. Integrated analysis with other drive components. (F)

**7410 (EVE 7410) Hydrogen Production and Storage for Vehicles. (CHE 7415) Cr. 4**

Prereq: B.S. degree in an engineering or math-based science program. Focus on the engineering of hydrogen production technologies including reformation of hydrocarbons, electrolysis, photoelectrochemistry, and the thermal decomposition of water. Background in hydrogen storage technologies including high pressure compressed gas, liquid hydrogen, metal hydrides, and chemical hydrides. (W)

**7450 (EVE 7450) Embedded Systems for Vehicles. (ECE 7455) Cr. 4**

Prereq: EVE 5430; B.S. degree in an engineering or math-based science program. Advanced embedded processors and operating sys-

tems, 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. (F)

**7990 Directed Study. Cr. 1-4 (Max. 4)**

Prereq: written consent of instructor; Open only to Engineering graduate students. Independent projects on subjects of interest in electric-drive vehicle engineering. (T)

**7995 Special Topics in Electric-drive Vehicle Engineering. Cr. 1-4 (Max. 4)**

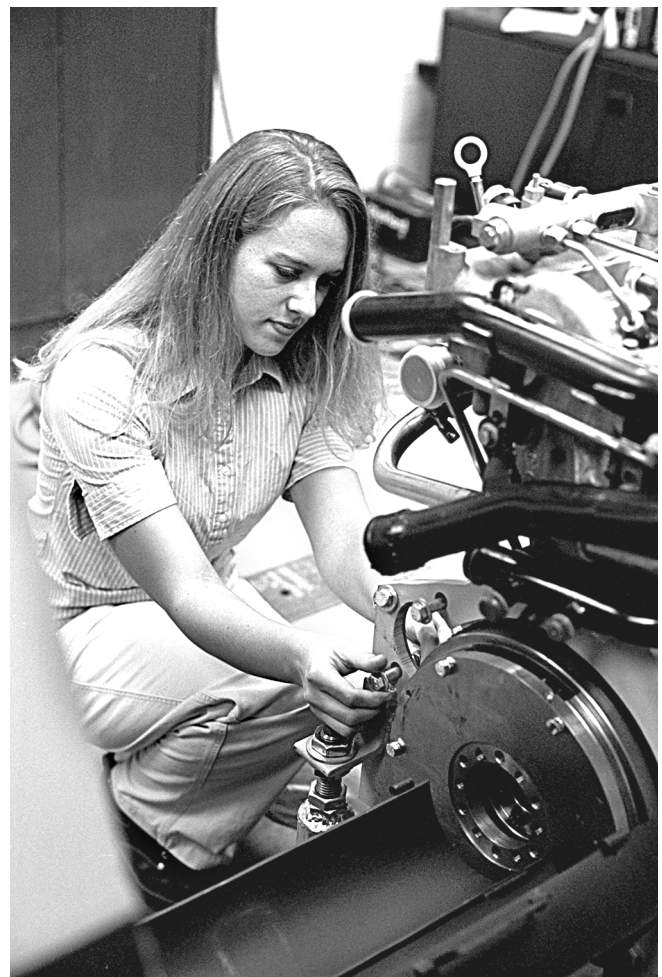
Prereq: maximum accumulated credits in Special Topics determined by program director. A consideration of special subject matter in electric-drive vehicle engineering. Topics to be announced in Schedule of Classes. (T)

**7996 Directed Research. Cr. 1-4 (Max. 4)**

Prereq: written consent of instructor. Open only to Engineering graduate students. Independent research projects. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: written consent of advisor; admission to the EVE Master of Science program. (T)



# Biomedical Engineering

Office: 818 W. Hancock; 313-577-1344

Chairperson: Albert I. King

Associate Chairperson: John M. Cavanaugh

Website: <http://www.bme.wayne.edu>

## Professors

Gregory Auner, Cynthia Bir, John M. Cavanaugh, Robert Erlandson, E. Mark Haacke, Albert I. King, Guang Zhao Mao, Howard Matthew, Sam Nasser, Dorothy A. Nelson, Robert Silver, King-Hay Yang

## Associate Professors

Chaoyang Chen (Research), R. Darin Ellis, Michele Grimm, Mahendra Kavdia, David Oupicky, Weiping Ren, Liying Zhang (Research)

## Assistant Professors

Michael Bey, Mark Cheng, Yeshitila Gebremichael, Zhifeng Kou, Abhilash Pandya, Harini Sundararaghavan, Yener Yeni

## Adjunct Faculty

Paul Begeman, Therese Bou-Akl, Norman Cheng, Cliff Chou, Ali Elhage-diab, Richard Genik, Timothy Hadden, James Kaltenbach, Tawfik Khalil, Robert Levine, Qinghang Li, John W. Melvin, Chantal Parenteau, Jeffrey Pike, Priya Prasad, Stephen Rouhana, Chris Van Ee, David Viano

## Graduate Degrees

*BRIDGE GRADUATE CERTIFICATE in Injury Biomechanics*

*MASTER OF SCIENCE in Biomedical Engineering*

*DOCTOR OF PHILOSOPHY with a major in Biomedical Engineering*

The field of biomedical engineering applies engineering science and design to the solution of problems related to human physiology and pathophysiology. Working at the interface of engineering and medicine, biomedical engineers work to prevent injury, diagnose disease, and treat illnesses or injuries that occur. Built on a strong research foundation that stretches back more than seventy years, the biomedical engineering program at Wayne State provides coursework and research opportunities in a broad range of areas in biomechanics, tissue engineering and biomaterials, biomedical imaging, and biomedical sensors and neurophysiology.

## Bridge Graduate Certificate in Injury Biomechanics

This bridge graduate certificate program provides a formal curriculum for working engineers and professionals to enhance their knowledge in the area of injury biomechanics with special emphasis on the design of military vehicles and the development of personal protective equipment. Those enrolled in the program will take a core program in physiology and impact biomechanics, with additional electives to broaden the educational program.

As a Bridge Graduate Certificate, students who complete this program have the option to continue into the M.S. program in Biomedical Engineering. Credits earned as part of the Bridge Graduate Certificate in Injury Biomechanics can be applied towards the M.S. degree requirements as long as they were completed with at least a 'B' (3.0 g.p.a.) and within six years of the completion date for the M.S.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. A minimum grade point average for regular admission to Graduate Certificate Program

is 3.0. However, those with g.p.a. of 2.70 can be admitted conditionally requiring that they maintain a 3.0 average g.p.a. for the first two consecutive semesters. Applicants should have a Bachelor of Science degree in engineering. Applicants with degrees in chemistry, physics, or life sciences who wish to be considered for admission must have completed the undergraduate engineering calculus sequence and the calculus-based undergraduate physics sequence. They are also advised to take BME 5040 before starting the Certificate Program.

**CERTIFICATE REQUIREMENTS:** Students must complete sixteen credits in BME courses related to injury biomechanics, including three required courses: BME 5010, 7100 and 7160. A fourth elective course must be chosen from the following list of options:

### Automotive Safety

BME 6480 -- Biomedical Instrumentation (ECE 6180) (I E 6180) (M E 6180) : Cr. 4  
BME 7120 -- Applied Finite Element Methods in Biomechanical Analysis: Cr. 4  
BME 7170 -- Experimental Methods in Impact Biomechanics: Cr. 4

### Personal Protective Equipment

BME 7120 -- Applied Finite Element Methods in Biomechanical Analysis: Cr. 4  
BME 7180 -- Advanced Topics in Impact Biomechanics: Cr. 4

All requirements must be completed within a three-year period. The minimum cumulative g.p.a. must be 3.0 at the time of graduation. No grade lower than a B-minus will be accepted for credit towards certificate requirements.

For additional information, interested students should contact:

Professor Albert King ([king@rrb.eng.wayne.edu](mailto:king@rrb.eng.wayne.edu)) or  
Professor King Yang ([king.yang@wayne.edu](mailto:king.yang@wayne.edu))

## Master of Science in Biomedical Engineering

Program specialization in this master's degree may be under-taken in six areas: transportation-related trauma, smart sensor technology engineering, neurophysiology, biomedical imaging, tissue engineering and biomaterials, and forensic bioengineering. These specializations are available to both part-time and full-time students, in either research or non-research degree programs.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must have a baccalaureate degree or its equivalent, earned at an accredited college or university, as well as the preliminary preparation and ability to pursue graduate study in this discipline. Students who have a baccalaureate degree or an advanced degree in a non-engineering discipline (e.g., life science) will be considered for admission to the program on a case-by-case basis. Regular admission may be authorized if the applicant's undergraduate g.p.a. is 3.0 or above and have taken the requisite coursework in calculus and engineering physics. All applicants are expected to submit a one-page statement of purpose along with their application, describing their interest in biomedical engineering. It is recommended that applicants also submit Graduate Record Examination (GRE) scores; these scores are required for students applying for financial support. An Application for Admission, with application fee and official transcripts from each college attended, is required before any student may register for graduate study. The applicant must take any entrance examinations specified by the Office of Admissions, the College, or the Program.

**DEGREE REQUIREMENTS;** This Master of Science degree in Biomedical Engineering is offered under the following options:

**Plan A:** A minimum of thirty-two credits in course work including an eight credit thesis.

**Plan C:** A minimum of thirty-four credits in course work.

For either plan, students must complete the following Core Requirements: BME 5005 or 5040, 5010, 5020, 5030, and 8070.

Additional courses will be chosen from the curriculum outlined for each specialization. A list of curricula can be found in the *Handbook for Graduate Students in Biomedical Engineering*, available at our Website: <http://www.bme.wayne.edu>. Students must take a minimum of six credits at the 7000-level or above if they are enrolled in Plan A, and a minimum of nine credits at the 7000-level or above (with six credits in BME or from the approved course list) if they are enrolled in Plan C. Directed study and directed research courses (BME 7990 and 7996) cannot be counted toward the satisfaction of the 7000-level course requirement. A maximum of four credits in directed study or directed research (BME 5990, 7990, and 7996) may be applied towards the degree. Thesis credits are earned through satisfactory completion of BME 8999.

Students enrolled in the master's degree program are required to file a Plan of Work with the Graduate Officer of the program by the time eight graduate credits have been earned. Following this, the applicant will petition his/her advisor to advance his/her rank to 'candidate.' Candidate status must be authorized by the time twelve graduate credits have been earned, or else subsequent registration will be denied. All course work must be completed in accordance with the regulations of the Graduate School and the College of Engineering governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively. Courses to be applied to the degree requirements must be completed with a grade of 'B' minus or higher.

All students should refer to the *Handbook for Graduate Students in Biomedical Engineering* for current departmental policies and requirements.

## Doctor of Philosophy with a Major in Biomedical Engineering

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. All applicants must submit Graduate Record Examination (GRE) scores. In addition, applicants must have an undergraduate g.p.a. of 3.5 or above and must have completed an undergraduate major or substantial specialized work in his/her proposed doctoral major field. Students with an undergraduate g.p.a. of 3.5 or above may apply for direct admission to the Ph.D. program; students with less than a 3.5 undergraduate g.p.a. must complete a master's degree program in biomedical engineering prior to consideration for admission to the Ph.D. program. All applicants are expected to submit a one-page statement of purpose, describing their interest in biomedical engineering.

**DEGREE REQUIREMENTS:** Completion of a minimum of ninety credits beyond the baccalaureate degree is required for the Ph.D. program. These credits are distributed as follows:

1. *Core Courses (twenty-two to twenty-three credits):* BME 5005 or 5040, 5010, 5020, 5030, 7010, 8070, 8080; and an approved graduate level Statistics course (BIO 5040 or FPH 7015).

2. *Dissertation (thirty credits).*

3. *General Courses (thirty-seven to thirty-eight credits):* Students must complete thirty-six to thirty-seven credits in graduate coursework, in addition to the core courses and including the satisfaction of the minor in life sciences. The life sciences minor may be satisfied by the completion of six credits of course work in graduate-level life science beyond the core curriculum. The student is required to seek approval of his/her selection of courses from their doctoral advisor. At least twelve credits in general courses must be chosen from those offered by the Biomedical Engineering Program. At least thirty credits of relevant courses must be at the 7000-level or above. Up to twelve credits in directed study and research can be applied towards the degree.

An approved Plan of Work should be filed with the Office for Graduate Studies as early in the graduate program as possible. The student must have filed the Plan of Work before being recommended for

candidacy status. (Consult page 37 of this Bulletin for Graduate School regulations governing doctoral study.) Courses to be applied to the degree requirements must be completed with a grade of 'B' minus or higher.

**Examinations:** All Ph.D. students must pass the examinations outlined below. After successful completion of the written qualifying examination, a student may be admitted to the status of doctoral candidate.

**1. Written Qualifying Examination:** Students are encouraged to take the written qualifying examination after completing sixteen credits in new course work toward the Ph.D. All Ph.D. students are required to pass the written qualifying examination before completion of forty-eight credits after their baccalaureate degree. Each student has two chances to pass the examination; if the exam is not passed by the second attempt, the student will be dismissed from the program (the option of obtaining a terminal master's degree will apply). The examination is offered once a year, in May.

**2. Proposal Defense (Oral Qualifying Examination):** This examination shall be a presentation of the student's proposal for dissertation research, and will be administered by the student's Doctoral Dissertation Committee. The Oral Examination must be satisfactorily completed at least twelve months prior to the Dissertation Defense.

**Dissertation** requirements are satisfied by the successful completion of thirty credits of dissertation research. The thirty credit dissertation registration requirement is fulfilled by registering for the courses BME 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All Ph.D. students must pass the written qualifying examination and apply for doctoral candidacy before election of dissertation credits. All Ph.D. students must register for dissertation credits or doctoral candidacy maintenance status (9995) for any semester in which they utilize campus facilities or consult with faculty, even though they may not be enrolled in a formal lecture course. The dissertation defense will be publicized by public notice to the academic community; at this session the candidate presents his/her doctoral research for final approval by the Doctoral Dissertation Committee.

All students should refer to the *Handbook for Graduate Students in Biomedical Engineering* for current departmental policies and requirements.

## COURSES OF INSTRUCTION (BME)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5005 Introduction to Cell Biology and Physiology for Engineers. Cr. 2**

Undergrad. prereq: senior standing. Not offered for B.S.B.M.E. degree credit. Basic understanding of fundamental human physiology for engineering students; emphasis on body function. Web-based class. (T)

### **5010 Engineering Physiology. (CHE 5100) (ECE 5100) (I E 5100) (M E 5100) Cr. 4**

Prereq: BME 5005 or consent of instructor. Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by simple mathematical models where feasible. (F,W)

**5020 Computer and Mathematical Applications in Biomedical Engineering. Cr. 4**

Prereq: proficiency in at least one programming language. Application of numerical methods in biomedical engineering. Data acquisition, reduction, and analysis using numerical methods and computer programming for such tasks. (F,W)

**5030 Introduction to Molecular Biology for Engineers. Cr. 3**

Prereq: BME 5005, BMS 6550 or former BMS 5550, or college-level cell biology course. Introduction to cell biology and molecular biology for engineers interested in biomedical engineering. (F,S)

**5040 Fundamentals of Engineering Analysis. Cr. 2**

Open only to students without an engineering background. Intensive, self-directed course in engineering analysis from Calculus I through linear algebra and differential equations. Analytical foundation for graduate study in biomedical engineering for students with non-engineering backgrounds. (F)

**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. (B:F)

**5210 Musculoskeletal Biomechanics. (M E 5160) Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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. (B:W)

**5250 Spine and Hip Fractures in the Elderly. Cr. 2**

Etiology and sequela of age-related fracture. Methodologies for detection and treatment of osteoporosis. Predictors of fracture risk. (B)

**5310 Device and Drug Approval and the FDA. Cr. 3**

Prereq: BME 5010 or consent of instructor. Government regulations and industrial procedures that lead to device/drug approval. (S)

**5370 Introduction to Biomaterials. (M E 5180) (MSE 5180) Cr. 4**

Prereq: B E 1300, BME 5010 or BMS 6550 or former BMS 5550. 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. (B:W)

**5380 Biocompatibility. (MSE 5385) Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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. (B:F)

**5390 Experimental Methods for Biomaterials. (MSE 5390) Cr. 2**

Hands-on and demonstration exposure to laboratory techniques for the assessment of biological tissues and artificial biomaterials. (B:W)

**5510 Introduction to Clinical Engineering and Technology. Cr. 2**

Prereq: BME 5010. Fundamental topics, including evolution of clinical engineering, medical technology, risk management, patient safety, medical equipment planning. (W)

**5530 (ECE 5370) Mechatronic System Design I. Cr. 4**

Prereq: ECE 4600 or equiv.; written consent of instructor. Students work in small groups to design and build "smart" devices or systems, which will integrate sensors, digital logic and/or microprocessors, and user interfacing; products will be requested by "clients" and the student will work in a cross-disciplinary team. (F)

**5540 (ECE 5380) Mechatronic System Design II. Cr. 4**

Prereq: ECE 4600 or equiv.; written consent of instructor. Continuation of BME 5530. (W)

**5570 Design of Human Rehabilitation Systems. (ECE 5170) (I E 5170) (M E 5170) Cr. 4**

Prereq: senior standing. Design, fabrication and testing of customized hardware to aid handicapped patients. (F)

**5730 Application Techniques in Biomedical Image Processing. Cr. 3**

Prereq: BME 5010 or consent of instructor. Basic techniques associated with segmentation, registration, and co-registration of CT and MR images to extract critical information needed for advanced data analysis. (B:F)

**5900 National Design Competition Projects. Cr. 1-4**

Prereq: consent of instructor. Course allows BME students to participate in national projects competitions. (T)

**5990 Directed Study. Cr. 1-4**

Prereq: senior standing and written consent of program director. Independent projects on subjects in the field of biomedical engineering. (T)

**5995 Special Topics in Biomedical Engineering I. Cr. 1-4**

Topics as announced in Schedule of Classes. (I)

**6130 Accident Reconstruction. Cr. 3**

Prereq: BME 5040 or equiv. 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. (S)

**6470 (ECE 6570) Smart Sensor Technology I: Design. (PHY 6570) Cr. 4**

Prereq: B.S. degree in engineering or science. Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. (F)

**6480 Biomedical Instrumentation. (ECE 6180) (I E 6180) (M E 6180) Cr. 4**

Prereq: ECE 3300, BME 5010 or BMS 6550 (or former BMS 5550), and BME 5020. Engineering principles of physiological measurements. Signal conditioning equipment, amplifiers, recorders and transducers. Recent advances. (W)

**6500 (ECE 6100) Enabling Technology. (O T 6620) Cr. 3-4**

Prereq: consent of instructor. Principles of application of enabling technology: across life stages, for differing ethnic and cultural backgrounds, for individuals with varying functional abilities. (W)

**6991 Internship in Industry. Cr. 1-4**

Prereq: consent of graduate advisor. Industrial internship in biomedical engineering. (T)

**7010 Functional Anatomy. Cr. 4**

Open only to BME doctoral students. Prereq: BME 5010. Gross dissection-based course designed to introduce students to the anatomical structures associated with major physiological functions important to biomedical engineering. Material Fee As Indicated In The Schedule of Classes (S)

**7020 Cardiovascular Systems Modeling, Cr. 4**

Prereq: MAT 2150 or MAT 2350 or equiv. Application of engineering principals and mathematical and computational techniques to Cardiovascular systems. Partial differential equations signal transduction pathway, biotransport modeling and introduction to systems biology approaches. (B:F)

**7030 Mechanisms and Models of Cellular Regulation for Engineering. Cr. 3**

Open only to graduate students. Prereq: BME 5030. Basic concepts of intracellular signaling pathways in response to environmental stimuli such as biomaterials and mechanical forces. (B:W)

**7100 Mathematical Modeling in Impact Biomechanics. (ECE 7100) (I E 7100) (M E 7100) Cr. 4**

Prereq: M E 3400, and BME 5010 or BMS 6550 or former BMS 5550; consent of instructor. Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. (W)

**7120 Applied Finite Element Methods in Biomechanical Analysis. Cr. 4**

Prereq: M E 5040. 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. (B:W)

**7130 Computational Methods in Biology. Cr. 3**

Prereq: familiarity with programming language. Theory and computational methods for modeling the dynamic and thermodynamic properties of biomolecular systems. Methods for modeling biological systems involving biofluid dynamics. (W)

**7160 Impact Biomechanics. (ECE 7160) (I E 7160) (M E 7160) Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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. (F)

**7170 Experimental Methods in Impact Biomechanics. Cr. 4**

Prereq: BME 6480, BME 7160. 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. Material Fee As Indicated In The Schedule of Classes (B:W)

**7180 Advanced Topics in Impact Biomechanics. Cr. 4**

Prereq: BME 7160. Formal seminar. Critical review and evaluation of the literature. (B:W)

**7210 Tissue Biomechanics. (M E 7195) Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550; BME 5020, BME 5210. Tissue-level mechanical properties. Analytical models of hard and soft tissue mechanics. Soft tissue viscoelasticity, quasilinear viscoelasticity and biphasic theory. Wolff's law and bone remodeling, bone fatigue and microfracture. Form and function relationships from microstructure to macrostructure. Application of theoretical models to experimental data sets. (B:W)

**7300 Advanced Topics in Biomaterials and Tissue Biomechanics. (M E 7180) (MSE 7180) Cr. 4**

Prereq: BME 5210 or 5370. 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. (B:F)

**7370 Biomaterial Interfaces. (CHE 7370) Cr. 4**

Prereq: BME 5370. Effects of topography and texture on the performance of biomaterials. Self-organization of biomembranes and supramolecular systems. (W)

**7380 Advanced Biocompatibility. Cr. 4**

Prereq: BME 5380. Seminar format; advanced topics investigated and presented by students. Material Fee As Indicated In The Schedule of Classes (B:W)

**7390 (CHE 7390) Tissue Engineering and Hybrid Systems. Cr. 4**

Prereq: BME 5370, and CHE 7100 or BME 5020. 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. (F)

**7400 (ECE 7400) Medical Robotics and Systems. Cr. 4**

Prereq: ECE 5020 or MAT 2250. Technology that interfaces computer engineering and electronics with surgery; introduction of key concepts in the field, including medical robotics, image-guided surgery, segmentation/3D modeling, medical simulation, and medical sensors. (W)

**7470 (ECE 7570) Smart Sensor Technology II: Characterization and Fabrication. (PHY 7580) Cr. 4**

Prereq: ECE 6570. Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Material Fee as given in Schedule of Classes. (W)

**7610 Pathophysiology of Pain. Cr. 3**

Neurophysiology of pain from nerve receptors in peripheral tissue to synaptic transmission in the central nervous system. Neurophysiology and biology of pain in the spine, hip, knee and muscle. (B:W)

**7670 Experimental Methods in Physiology. Cr. 3**

Prereq: BME 5010. 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. Material Fee As Indicated In The Schedule of Classes (W)

**7680 Advanced Topics in Injury and Pain Research. Cr. 3**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. Pain is a symptom common to many bone, joint and muscle disorders; it can be a debilitating sequel to injury and a major focus of rehabilitation. Special topics in pain and functional injury research. (B:W)

**7700 Light Microscopy: Theory and Practice. Cr. 4**

Prereq: BME 5010. Fundamentals of image formation and application to the biomedical sciences. Review of the relevant physics; various microscopy methods. Real signals, how an image is formed, what a particular image represents. Available image detection/capture methods; critiques of current and classical scientific papers that rely on microscopy. Use of wide-field and confocal microscopes; practical questions based on the scientific literature. (B:F)

**7710 Magnetic Resonance Imaging. Cr. 4**

Prereq: MAT 2150, ECE 3570, ECE 3580, BME 5020. Science and engineering of magnetic resonance imaging; relaxation times, signal concepts, Fourier imaging, sampling, filtering, and sequence design. (B:W)

**7720 (PYC 7320) MR Imaging of Neurovascular Disease. Cr. 3**

Open only to graduate students. Prereq: BME 5010, consent of instructor. 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. (B:W)

**7810 Forensic Bioengineering. Cr. 4**

Review and critical examination of current research and literature. Bioengineering principles as applied to forensic investigation. Use of software programs in analysis. (B:W)

**7820 Experimental Methods in Forensic Engineering. Cr. 3**

Coreq: BME 7810. Hands-on exposure to areas related to forensic engineering; laboratory setting with several experiments to be completed. (B:W)

**7990 Directed Study. Cr. 1-4**

Prereq: written consent of instructor. Independent projects on subjects of interest in the field of biomedical engineering. (T)

**7995 Special Topics in Biomedical Engineering II. Cr. 1-4**

Prereq: consent of program director. Topics as announced in Schedule of Classes. (I)

**7996 Research. Cr. 1-4**

Prereq: consent of chairperson and advisor. Combined experimental and analytical study of a problem in the field of biomedical engineering. (T)

**8070 Seminar in Biomedical Engineering. Cr. 1**

Offered for S and U grades only. 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. (F,W)

**8080 Doctoral Seminar in Biomedical Engineering. Cr. 1**

Prereq: doctoral candidate standing. Offered for S and U grades only. Seminar and research discussion based on research projects of BME doctoral students. (T)

**8470 (ECE 8570) Smart Sensor Technology Seminar. (PHY 8570) Cr. 1**

Prereq: ECE 6570, 7570. Technological advances. Interaction of research experience in smart sensors and integrated devices. (W)

**8710 Seminar in Biomedical Imaging. Cr. 1**

Prereq: BME 7710; graduate standing. Exploration of areas in Magnetic Resonance Imaging: technical aspects to clinical applications. Diseases such as multiple sclerosis, trauma, stroke, and cancer will be considered. Students make at least one presentation of a specialized topic, and participate in associated weekly discussions. (B:F)

**8999 Master's Thesis Research and Direction. Cr. 1-8**

Prereq: consent of advisor; written consent of MDR Program. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 10)**

Prereq: consent of department. For Ph.D. program applicants. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: BME 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BME 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

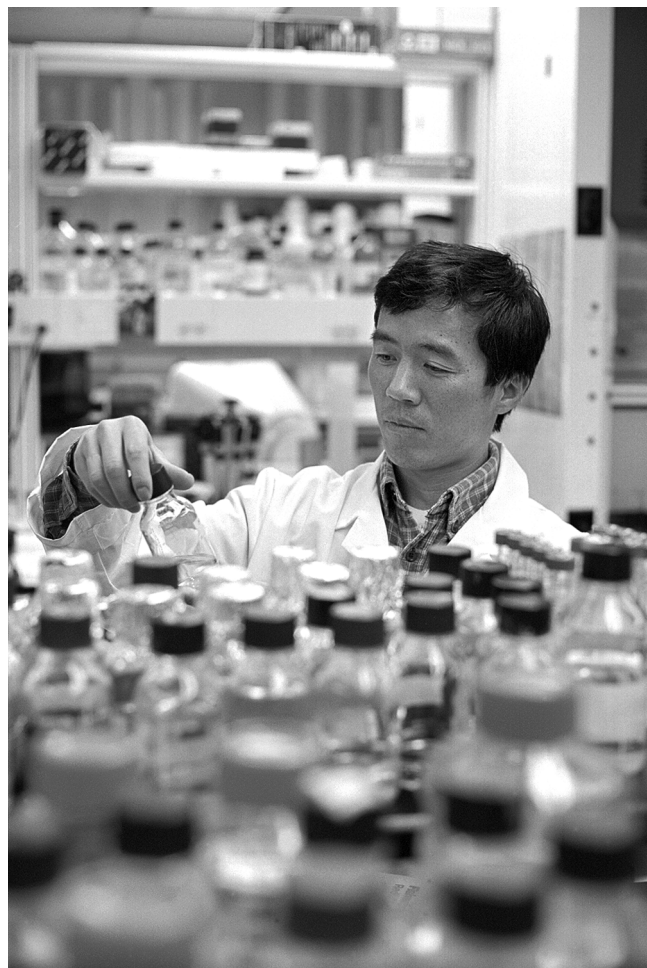
Prereq: BME 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BME 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: BME 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BME 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in BME 9991- BME 9994. Offered for S and U grades only.



# Chemical Engineering and Materials Science

Office: 1100 W. Engineering Building; 313-577-3800

Chairperson: C.W. Manke

Website: <http://www.eng.wayne.edu/che>

## Professors

Y. Huang, C.W. Manke, G. Z. Mao, H.W.T Matthew, S. Ng, S.K. Putatunda, E. W. Rothe

## Associate Professors

S. da Rocha, R. Kannan, J. Potoff, S.O. Salley, G. Shreve

## Assistant Professors

D. Deng, E. Nikolla

## Graduate Degrees and Certificates

*GRADUATE CERTIFICATE in Polymer Engineering*

*MASTER OF SCIENCE in Chemical Engineering*

*MASTER OF SCIENCE in Materials Science and Engineering*

*DOCTOR OF PHILOSOPHY with a major in  
Chemical Engineering*

*DOCTOR OF PHILOSOPHY with a major in Materials Science  
and Engineering*

## Chemical Engineering

The field of chemical engineering embraces those industries in which matter is treated to effect a change of state, energy content, or composition, and in which the chemical engineer may be concerned with either the processes or the process equipment used for them. Examples of such industries are: fuels and petroleum processing; heavy, fine and pharmaceutical chemicals; textiles and fibers; food processing and products; natural and synthetic rubbers and plastics; explosives; pulp and paper; cements and building materials; surface coatings; disposal of chemical plant wastes; atomic energy processes; environmental control and medical systems; and the general fields of biotechnology.

Areas of specialized research and support for graduate students include thermodynamics and transport properties of polymer solutions and melts, processing, rheology and separations of polymers, heterogeneous catalysis, surface science of catalytic and polymeric materials, laser-based imaging of chemical species and reactions, environmental transport and management of hazardous waste, process design and synthesis based on waste minimalization, biocatalysis in multiphase systems, bioremediation for waste treatment, tissue engineering, and pharmacokinetics.

## Materials Science and Engineering

Materials problems constitute an important area of research and development in the complex technology of our industrial society. The use of advanced materials, such as thermoplastic and thermoset polymers, intermetallic alloys, reinforced plastic or metal composites, ceramics and electronic materials, in the manufacturing of durable goods and devices has presented challenges to the profession of materials science and engineering. Materials engineers must understand the behavior of advanced materials, their chemical, mechani-

cal, optical, thermal, and electrical properties, and the atomic or molecular structure that determines these properties. They can then apply their knowledge to the synthesis and processing of materials into useful products by controlling and improving their properties.

Areas of specialized research and support for graduate students include processing and rheology of polymers, thermodynamics and transport properties of polymer solutions and melts, computer simulation of polymeric and microporous materials, deformation and fracture of materials at elevated temperatures, effects of processing on mechanical properties of intermetallic alloys, influences of microstructure on fatigue, fracture toughness, stress cracking and corrosion in metals, nondestructive mechanical testing of composites, surface science of catalytic and polymeric materials, laser-based imaging of chemical species and reactions, electronic materials and sensors for automotive applications.

## Certificate Program in Polymer Engineering

This program provides specialized formal education for working engineers and scientists. Those enrolled in the program will learn the fundamentals of polymer science and engineering, extend their knowledge of current polymer research topics, and maintain technical competitiveness by broadening their polymer expertise.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants must have a Bachelor of Science degree in engineering, chemistry, or physics.

**CERTIFICATE REQUIREMENTS:** Students must complete twelve credits, including six credits in required courses: CHE 5350 and 5360; and six credits in electives. The minimum g.p.a. must be 3.0. For additional information and advice about electives, contact Dr. Mao (e-mail address: [gzmao@che.eng.wayne.edu](mailto:gzmao@che.eng.wayne.edu)); telephone: 313-577-3804.

## Master of Science in Chemical Engineering

The Master of Science program is open to students with a bachelor's degree in engineering, and other mathematics-based sciences. The program is designed to accommodate those students employed in local industries, as well as full-time students, by offering a majority of its courses in the evening.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Regular admission requires a 3.0 grade point average or the equivalent as determined by the Department Graduate Officer.

This Master of Science degree is offered under the following options:

**Plan A:** Thirty-two credits including an eight credit thesis.

**Plan C:** Thirty-two credits of course work.

**DEGREE REQUIREMENTS:** Both options require the following core courses: CHE 7100, 7200, 7300, and 7400. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

## — Combined Chemical Engineering B. S. / M. S. for Students with a B. S. in Chemistry

**Admission:** This program is designed for individuals who have earned a baccalaureate in chemistry from an accredited United States institution with a minimum grade point average of 3.0. Students are first admitted into the undergraduate program and are then eligible to earn both the B.S. in Chemical Engineering and, once admitted to the Graduate School, the M. S. degree. Evaluation of

prerequisite requirements and applicable transfer credit will be determined by the Departmental advisor.

**DEGREE REQUIREMENTS:** A combined total of sixty-six credits is required: a minimum of thirty-four credits for the second baccalaureate and thirty-two credits for the master's degree. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

For additional information regarding specific course requirements, contact the Departmental Advisor: 313-577-3716.

## Master of Science in Materials Science and Engineering

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

The Master of Science in Materials Science and Engineering program is open to students with a bachelor's degree in engineering or the physical sciences. Admission requires a 3.0 grade point average, or the equivalent as determined by the Department Graduate Officer. Applicants whose baccalaureate degrees are not in materials or metallurgical engineering, or whose undergraduate preparation is evaluated as insufficient, may be required to elect additional courses prior to admission.

**DEGREE REQUIREMENTS:** The master's degree is offered by this department under the following options:

**Plan A:** thirty-two credits in course work, including an eight credit thesis.

**Plan C:** thirty-two credits in course work.

Requirements for both options include at least twenty-six credits in materials science and engineering courses, including the core courses: MSE 7100, 7300, 7400, and CHE 7200. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

## Doctor of Philosophy with a Major in Chemical Engineering

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Regular admission requires a 3.5 grade point average in a Master of Science program, or a Bachelor of Science program from an accredited U.S. institution. Evaluation of admission prerequisites will be determined by the Department Graduate Officer.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate, including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses CHE 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Credit distribution must also include at least thirty credits in graduate courses numbered 7000 and above, including the core courses: CHE 7100, 7200, and 7300. The program requires a qualifying examination (written and oral, taken after the equivalent of one year of course work), an approved dissertation outline and prospectus, and a final oral examination after completion of the doctoral dissertation. Students should consult page 37 for Graduate School regulations governing doctoral study.

## Doctor of Philosophy with a Major in Materials Science and Engineering

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Regular admission requires a 3.5 grade point average in the Master of Science degree or in the Bachelor of Science degree, from an accredited U.S. institution, and the written approval of the student's advisor (selected from the departmental faculty). Evaluation of admission credits is determined by the Department Graduate Officer.

**DEGREE REQUIREMENTS:** A minimum of ninety credits beyond the Bachelor of Science degree is required in the Doctor of Philosophy program, including thirty credits in dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses MSE 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Credit distribution must also include at least thirty credits in graduate courses numbered 7000 and above, including the core courses: MSE 7100, 7300, and CHE 7200. Also required are: a qualifying examination, taken after the equivalent of one academic year of course work; an approved dissertation outline and prospectus; and a final oral examination, taken after the completion of the Ph.D. dissertation. Students should consult page 37 for Graduate School regulations governing doctoral study.

## GRADUATE COURSES

### CHEMICAL ENGINEERING (CHE)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

#### **5050 Statistics and Design of Experiments. Cr. 3**

Prereq: B E 2100, B E 2550; CHE 3800, CHE 3400. Application of modern statistical experimental design methods to improve effectiveness and success in experimental projects, in chemical industry manufacturing, and research and design. (W)

#### **5100 (BME 5010) Engineering Physiology. (ECE 5100) (I E 5100) (M E 5100) Cr. 4**

Prereq: BME 5005 or consent of instructor. Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by simple mathematical models where feasible. (F,W)

#### **5110 (EVE 5130) Fundamental Fuel Cell Systems. (AET 5110) (M E 5110) Cr. 4**

Prereq: senior standing in science or engineering discipline. 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. (F)

#### **5350 Polymer Science. (MSE 5350) Cr. 3**

Prereq. or coreq: MAT 2150. 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. Material Fee As Indicated In The Schedule of Classes (F)



**5360 Polymer Processing. (MSE 5360) Cr. 3**

Prereq: CHE 3200 or equivalent undergraduate fluid mechanics. A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendaring, extrusion, coating and injection molding. Material Fee As Indicated In The Schedule of Classes (W)

**5600 (MSE 5600) Composite Materials. Cr. 3**

Coreq: CHE 5350. Introductory course emphasizing a physical understanding of composites: fiber and polymer matrix properties, interfacial adhesion, manufacturing, elastic and strength properties of unidirectional and random laminae. Other topics include various performance properties and plastic design applications. (F)

**5620 (EVE 5620) Energy Economics and Policy. Cr. 4**

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Demand for energy, energy supply, energy markets, and public policies affecting energy markets. Coal, oil, natural gas, electricity, and nuclear power sectors and examines energy tax, price regulation, deregulation, energy efficiency and emission control policies. (W)

**5700 Process and Materials Safety for Alternative Energy Technology. (AET 5700) Cr. 4**

Prereq: senior standing in science or engineering discipline. Fundamentals concerning fires and explosions, control strategies to prevent accidents, fault tree analysis to optimize control strategies, and risk analysis. Regulations and standards relevant to the design, manufacture, and operation of fuel cell and reforming processes. (W)

**5809 Research Preparation I. Cr. 0**

Prereq: CHE 3200, CHE 3300, and consent of instructor. Identification of a research topic for CHE 6810. (W)

**5811 Research Preparation II. Cr. 1**

Prereq: CHE 5809, and consent of advisor (or CHE 3200, CHE 3300). Preparation for Senior Research Project, CHE 6810. (T)

**5995 Special Topics in Chemical Engineering I. Cr. 1-4 (Max. 8)**

Prereq: senior standing. Maximum of eight credits in Special Topics in any one degree program. A consideration of special subject matter in chemical engineering. Topics to be announced in Schedule of Classes. (T)

**5996 Chemical Engineering Research. Cr. 1-6**

Prereq: consent of advisor. Open only to students enrolled in professional engineering programs. Research project. (T)

**6100 (STE 6100) Introduction to Sustainable Engineering. Cr. 3**

Social, environmental, economical, and technological perspectives relevant to the design, operation and management of engineering activities. Multiple perspectives addressed from a system sustainability view point. (Y)

**6130 (NFS 6130) Food Preservation. Cr. 4**

Prereq: senior standing; BIO 2200 and NFS 5130 or equiv. Basic food preservation methods and the underlying physical, chemical, bacteriological and organoleptic properties of foods to be preserved. Material Fee As Indicated In The Schedule of Classes (W)

**6450 Biochemical Engineering. Cr. 3**

Prereq: CHE 3400, 3800. An introductory study of the principles of chemical engineering, biochemistry and biology which are essential for the design of industrial systems involving biological transformations. (I)

**6520 Chemodynamics: Environmental Transport. Cr. 3**

Prereq: CHE 3300, 3400, 3800. Application of chemical engineering fundamentals and transport phenomena to study the movement and fate of chemicals within the environment (air, water, soil). (S)

**6570 Safety in the Chemical Process Industry. Cr. 3**

Prereq: CHE 3400, 3800. Fundamental and practical experience necessary for safe operation of a chemical process plant. Actual industrial case studies conducted under industry supervision. (W)

**6610 Risk Assessment. Cr. 3**

Prereq: MAT 2030, CHM 1240, B E 2100. Introduction to risk assessment in environmental hazard management with emphasis on the chemical industry, including hazard identification, exposure analysis and risk characterization. (F)

**6810 (WI) Chemical Engineering Research Project. Cr. 4**

Prereq: CHE 4200, CHE 5710, and written consent of advisor. 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. (W)

**6997 Optimization of Chemical Processes. Cr. 3**

Prereq: CHE 4200. The application of optimization techniques in the design and operation of chemical processes. (I)

**7100 Advanced Engineering Mathematics. (MSE 7100) Cr. 3**

Prereq: MAT 2150 or equiv. Presentation, evaluation and use of mathematical methods within the framework of engineering problems; including ordinary and partial differential equations, transforms and vector operations. (F)

**7110 (EVE 7110) Materials Science Aspects of Lithium Ion Batteries. Cr. 4**

Prereq: B.S. degree in an engineering or math-based science program. Fundamental understanding of the role of advances in materials science and engineering to the development of these high energy batteries. Details on the novel synthesis of these new materials together with their physical and electrochemical characterization. (S)

**7200 Advanced Transport Phenomena. Cr. 4**

Prereq: CHE 7100 and 5200, or equiv. Basic properties of heat, mass and momentum transfer systems; fundamental equations, transforms and vector operations; includes independent study project. (W)

**7215 (PSL 7215) Nanobioscience. (CHM 7215) (PHY 7215) Cr. 3**

Prereq: first year calculus, general chemistry. Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. (F)

**7300 (CHE 7300) Advanced Thermodynamics. (MSE 7300) Cr. 3**

Prereq: CHE 3300 or CHM 5420. Advanced presentation of the principles of thermodynamics; application to open systems, phase diagrams and chemical equilibria. (F)

**7330 (CHE 7330) Polymer Rheology. (MSE 7330) Cr. 3**

Prereq: CHE 5200 or 7200 or graduate fluid mechanics background. Flow properties of polymer solutions; methods of measuring fundamental rheological parameters using viscometric devices; prediction of material properties from theoretical principles. Correlation between theoretical and experimental results. (B)

**7350 (CHE 7350) Polymer Solutions. (MSE 7350) Cr. 3**

Prereq: CHE 5350. 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. (B)

**7390 Tissue Engineering and Hybrid Systems. (BME 7390) Cr. 4**

Prereq: BME 5370, and CHE 7100 or BME 5020. Seminar and project based approach to the design, development, analysis and appli-

cation of organ and tissue replacement systems which incorporate processed materials and living cells. (B)

**7400 Advanced Kinetics and Reactor Design. Cr. 4**

Prereq: CHE 2800, 3400. 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. Material Fee As Indicated In The Schedule of Classes (W)

**7410 (AET 7410) Alternative Fuels: Properties, Processing, and Characterization. Cr. 4**

Prereq: written consent of advisor and AET Program Director. Exploration of the latest alternative fuels: their physical and chemical properties, production technologies, and standardization characterization tests. (F)

**7415 (EVE 7410) Hydrogen Production and Storage for Vehicles. Cr. 4**

Prereq: B.S. degree in an engineering or math-based science program. Focus on the engineering of hydrogen production technologies including reformation of hydrocarbons, electrolysis, photoelectrochemistry, and the thermal decomposition of water. Background in hydrogen storage technologies including high pressure compressed gas, liquid hydrogen, metal hydrides, and chemical hydrides. (W)

**7990 Directed Study. Cr. 1-9**

Prereq: written consent of advisor, chairperson and engineering graduate officer for master's students; written consent of advisor, chairperson and Dean of Graduate Studies for Ph.D. students. Library investigation of an approved project in chemical engineering. Independent study, conferences with supervisor and preparation of a comprehensive written and oral report. (T)

**7995 Special Topics in Chemical Engineering II. Cr. 1-4**

Prereq: CHE 3800, 3400. Maximum of six credits in Special Topics in any one degree program. A consideration of special subject matter in chemical engineering. Topics to be announced in Schedule of Classes. (F,W)

**8450 Advanced Plant Design Concepts. Cr. 2**

Prereq: CHE 4200 or equiv. Newest techniques in design of plants: profit analysis, productivity, cost estimation, new methodologies. (I;W)

**8510 Graduate Co-op Experience. Cr. 1-3**

Offered for S and U grades only. Presentation of oral and written reports to peer group describing co-op experience. (T)

**8895 Research I. Cr. 1-9 (Max. 30)**

Prereq: consent of department and advisor. Library and laboratory investigation of an approved advanced research project. Conferences and periodic oral reports. Comprehensive report of entire project on completion. (T)

**8993 (MSE 8993) Advanced Topics in Polymer Science and Engineering. Cr. 3**

Open only to Ph.D. students. Maximum of 12 credits may be elected in any one degree program. Advanced topics in characterization, rheology, and dynamics of polymer melts and solutions. New experimental techniques, theory, and simulations used in current research. (Y)

**8994 Advanced Topics in Biochemical Engineering. Cr. 3**

Open only to Ph.D. students. Maximum of 12 credits may be elected in any one degree program. Advanced topics in tissue engineering, biomaterials and transport phenomena in artificial organs. New experimental techniques and models. (Y)

**8996 Research. Cr. 1-9 (Max. 30)**

Prereq: consent of advisor. 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. (T)

**8997 Chemical Engineering Graduate Seminar. Cr. .5**

Prereq: CHE 7400 and 7200. Normally requires more than one semester; deferred grade accepted. 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. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 10)**

Prereq: consent of department. For Ph.D. program applicants. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: consent of dissertation advisor; Ph.D. candidate in department. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only. (T)

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: consent of dissertation advisor; CHE 9991. Required in academic-year semester following 9991. Offered for S and U grades only. (T)

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: consent of dissertation advisor; CHE 9992. Required in academic-year semester following 9992. Offered for S and U grades only. (T)

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: consent of dissertation advisor; CHE 9993. Required in academic-year semester following 9993. Offered for S and U grades only. (T)

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: consent of dissertation advisor; completion of 30 credits in CHE 9991-9994. Offered for S and U grades only. (T)

## MATERIALS SCIENCE and ENGINEERING (MSE)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**5180 (BME 5370) Introduction to Biomaterials. (M E 5180) Cr. 4**

Prereq: B E 1300, BME 5010 or BMS 6550 or former BMS 5550. 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. (Y)

**5350 (CHE 5350) Polymer Science. Cr. 3**

Prereq. or coreq: MAT 2150. 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. (F)

**5360 (CHE 5360) Polymer Processing. Cr. 3**

Prereq: CHE 3200 or equivalent undergraduate fluid mechanics. A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendaring, extrusion, coating and injection molding. Material Fee As Indicated In The Schedule of Classes (W)

**5385 (BME 5380) Biocompatibility. Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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 Y masking. Biocompatibility testing. (B)

**5390 (BME 5390) Experimental Methods for Biomaterials. Cr. 2**

Hands-on and demonstration exposure to laboratory techniques for the assessment of biological tissues and artificial biomaterials. Material Fee As Indicated In The Schedule of Classes (W)

**5600 (MSE 5600) Composite Materials. (CHE 5600) Cr. 3**

Coreq: MSE 5350. Introductory course emphasizing a physical understanding of composites: fiber and polymer matrix properties, interfacial adhesion, manufacturing, elastic and strength properties of unidirectional and random laminae. Other topics include various performance properties and plastic design applications. (F)

**5650 Surface Science. Cr. 3**

Prereq: B E 1300, CHM 5440. 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. (I)

**7100 (CHE 7100) Advanced Engineering Mathematics. Cr. 3**

Prereq: MAT 2150 or equiv. Presentation, evaluation and use of mathematical methods within the framework of engineering problems, including ordinary and partial differential equations, transforms and vector operations. (F)

**7180 (BME 7300) Advanced Topics in Biomaterials and Tissue Biomechanics. (M E 7180) Cr. 4**

Prereq: BME 5210 or 5370. 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. (B)

**7300 (CHE 7300) Advanced Thermodynamics. Cr. 3**

Prereq: CHE 3300 or CHM 5420. Advanced presentation of the principles of thermodynamics; application to open systems, phase diagrams and chemical equilibria. (F)

**7330 (CHE 7330) Polymer Rheology. Cr. 3**

Prereq: CHE 5200 or CHE 7200 or graduate fluid mechanics background. Flow properties of polymer solutions; methods of measuring fundamental rheological parameters using viscometric devices; prediction of material properties from theoretical principles. Correlation between theoretical and experimental results. (B)

**7350 (CHE 7350) Polymer Solutions. Cr. 3**

Prereq: CHE 5350. 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. (B)

**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. (I)

**7990 Directed Study. Cr. 1-6**

Prereq: written consent of advisor. Library investigation of an approved project in materials science and engineering. Independent study, conferences with supervisor and preparation of a comprehensive report. (T)

**7995 Special Topics in Materials Science II. Cr. 1-4**

Maximum of twelve credits in Special Topics may be elected in any one degree program. A consideration of special subject matter in materials science. Topics to be announced in Schedule of Classes. (I)

**8895 Research I. Cr. 1-9 (Max. 30)**

Prereq: consent of department and advisor. Library and laboratory investigation of an approved advanced research project. Conferences and periodic oral reports. Comprehensive report of entire project on completion. (T)

**8993 (MSE 8993) Advanced Topics in Polymer Science and Engineering. (CHE 8993) Cr. 3**

Open only to Ph.D. students. Maximum of 12 credits may be elected in any one degree program. Advanced topics in characterization, rheology, and dynamics of polymer melts and solutions. New experimental techniques, theory, and simulations used in current research. (Y)

**8996 Research. Cr. 1-10**

Prereq: consent of advisor. 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. (T)

**8997 Seminar. Cr. .5**

Prereq: consent of advisor. (F,W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: MSE 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MSE 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

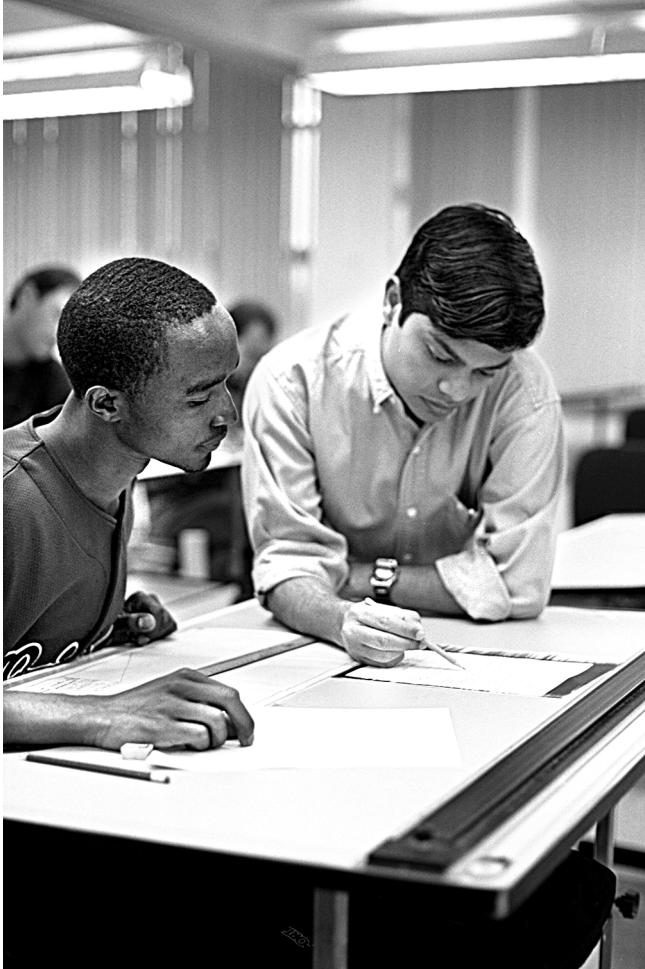
Prereq: MSE 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MSE 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: MSE 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MSE 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in MSE 9991- MSE 9994. Offered for S and U grades only.



# Civil and Environmental Engineering

Office: 2100 E. Engineering Building; 313-577-3789

Chairperson: Carol Miller

Website: <http://www.cee.eng.wayne.edu>

## Professors

T.K. Datta, C.J. Miller, M.A. Usmen

## Associate Professors

C.D. Eamon, H.C. Wu

## Assistant Professors

T.J. Gates, J. Jang, S. McElmurry, P.T. Savolainen

## Adjunct Faculty

A. Awad, N. Biswas, H. Cakan, M. Ghabrial, J. Gruber, P. Maxwell, J. Sears, J. Selegean, P. Sgriccia

## Graduate Degrees

*MASTER OF SCIENCE in Civil Engineering*

*DOCTOR OF PHILOSOPHY with a major in Civil Engineering*

The urban crisis in America has brought into sharp 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 of structural systems; water resources planning; the treatment and ultimate disposal of noxious solid and liquid wastes; design of building systems which will provide adequate housing for urban dwellers, commerce and industry; the development of adequate transportation systems; construction methods and management; and the implementation and management of public works infrastructure projects designed to improve the urban environment. Obviously, the responsibilities of the civil engineer directly involve the health, safety and welfare of the public.

The Department of Civil and Environmental Engineering offers graduate degree programs in which students may specialize in the following areas: structures, geotechnical engineering, environmental engineering, transportation, and construction management.

## Master of Science in Civil Engineering

The civil engineering graduate program at Wayne State University has traditionally attracted students employed by local industries and government. This program is designed to accommodate the needs of both full-time on-campus students and part-time students concurrently employed by local industry or government. To this end, a majority of graduate classes are held in the evening. Alternatively, full-time students have the opportunity to participate in research and experimental work with the faculty, while pursuing their graduate courses.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, all applicants must satisfy the following:

1. The student must have an undergraduate engineering degree from an institution accredited by the Accrediting Board for Engineering and Technology (ABET) or from a comparable foreign institution. In the event that the degree is in some field other than civil engineering, the student may be required to complete a set of prerequisite undergraduate courses before graduate degree credit may be accrued

2. The student must have an overall grade point average (g.p.a.) of 3.0 for regular admission. Qualified or probationary admission may be granted to students with a lower g.p.a. Conditions of such admissions are specifically mandated and applicants should contact the Department for details.

**DEGREE REQUIREMENTS:** The Master of Science is offered by this department under the following options:

**Plan A:** Thirty-two credits including an eight credit thesis.

**Plan C:** Thirty-two credits of course work.

For either plan, credits must be distributed as follows: at least twenty credits must be taken in the major (C E courses). There must be two courses numbered 7000-8999, and a cluster of courses which will constitute a core, to be selected from one of the following areas: Environmental Engineering, Geotechnical Engineering, Structures, Transportation, Construction Management.

For specific departmental requirements, students should consult the current issue of the *Civil and Environmental Engineering Graduate Student Handbook*.

Students must maintain a grade of 'B' or better in all core courses. The credit distribution requirements do not include thesis credit for Plan A candidates.

Within the first eight to twelve credits in graduate work, the student should file an advisor-approved Plan of Work. All course work must be completed in accordance with the regulations of the Graduate School and the College of Engineering governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

## Doctor of Philosophy with a Major in Civil Engineering

The Department offers doctoral programs in all the major areas listed as core specializations under the Master of Science degree (see above).

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. For admission to the Ph.D. program, the student's overall grade point average must be 3.2 or better, and 3.4 in the last two years as an undergraduate student. Students who do not satisfy these minimum standards will not be considered for admission to the program until they have completed an M.S. degree and have earned a grade point average in courses taken for graduate credit which is not less than 3.5.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate, including thirty credits of dissertation direction, and sixty credits of course work and directed study. The thirty credit dissertation registration requirement is fulfilled by registering for the courses C E 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All doctoral students are required to submit a Plan of Work indicating their course work (with major/minor designation), and developed in consultation with an advisor. Additionally, students should consult page 37 for Graduate School regulations governing doctoral study.

For specific departmental requirements, students should consult the current issue of the *Civil and Environmental Engineering Graduate Student Handbook*.

## GRADUATE COURSES (C E)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5220 Environmental Chemistry. Cr. 4**

Prereq: CHM 1220/1225, CHM 1240, PHY 2140/2175, and MAT 2020; or C E 4210; or senior standing as a major in a science or engineering discipline. 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. Material Fee As Indicated In The Schedule of Classes (B)

### **5230 Water Supply and Wastewater Engineering. Cr. 4**

Prereq: C E 4210. Open only to students enrolled in professional engineering programs. 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. Material Fee As Indicated In The Schedule of Classes (Y)

### **5350 Introduction to Structural Dynamics. Cr. 4**

Prereq: M E 3400, C E 4400. 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. (W)

### **5370 Finite Element Analysis Fundamentals. Cr. 4**

Prereq: C E 4400 or M E 5600. 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. (F)

### **5410 (C E 5410) The Hydrogen Economy and Hydrogen Infrastructure Needs. (AET 5410) (M E 5850) Cr. 4**

Prereq: senior standing in science or engineering discipline. The post-fossil fuel energy paradigm, in context of the developing hydrogen infrastructure; analysis of government reports and scientific literature; discussion regarding the championed (and contested) vision of a global Hydrogen Economy. (F)

### **5420 (C E 5420) Transportation Energy Choices. (AET 5420) (M E 5870) Cr. 4**

Prereq: senior standing in science or engineering discipline. Technological innovations and barriers impacting energy production, storage, and conversion in transportation applications. Fuel life cycle case studies (bioethanol, syncrude, etc.). (W)

### **5510 Geotechnical Engineering I. Cr. 4**

Prereq: C E 4510. 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. (F)

### **5520 Geotechnical Engineering II. Cr. 4**

Prereq: C E 4510. 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. (B)

**5610 Highway Design. Cr. 4**

Prereq: C E 4640. 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. (Y)

**5810 Legal Aspects of Engineering and Construction. Cr. 3**

Open only to seniors and graduate students. Business of contracting, construction, liabilities of owner, architect, engineer and contractor. Rights in land, boundaries and foundations. Case studies. Material Fee As Indicated In The Schedule of Classes (F)

**5830 Business of Engineering. Cr. 3**

Prereq: C E 4850. Defining the engineering company, creating the organization, support services, business development, project management, scheduling, budgeting and profitability, operations, financial management and risk management. (T)

**5995 Special Topics in Civil Engineering I. Cr. 0-4**

Prereq: consent of chairperson. Topics to be announced in Schedule of Classes. (I)

**6010 Introduction to Construction Management. Cr. 3**

Prereq: C E 4850 or consent of instructor. An introduction to the organization and management of design and construction firms. Organizational and managerial theories. Problems of organization management, operation and control of engineering systems, case studies. Material Fee As Indicated In The Schedule of Classes (W)

**6050 Construction Cost Estimating. Cr. 3**

Prereq: C E 4850. 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. (B)

**6060 Construction Techniques and Methods. Cr. 3**

Prereq: C E 4450. Construction techniques and methods for excavation, foundations, concrete, wood, steel, masonry, heavy construction, wastewater treatment plants, highways and roads, high rise structures, bridges, and tunnelling projects. (B)

**6130 Open Channel Hydraulics. Cr. 4**

Prereq: C E 3250 or equiv. Theoretical development of equations governing flow in open channels. Application to real-world engineering problems involving water surface profiles, flood studies, and river. (W)

**6150 Hydrologic Analysis and Design. Cr. 4**

Prereq: C E 6130. 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. (B)

**6190 Groundwater. Cr. 4**

Prereq: C E 3250. 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. (Y)

**6210 (GEL 6210) Current Topics in Environmental Sciences. (C E 6210) Cr. 3**

Prereq: PHY 2130/2140 or 2170/2180; CHM 1220 and 1230; GEL 1010 or C E 4210; and BIO 1500; or consent of instructor. Introductory course for senior undergraduate and graduate students in environmental science/engineering and geology. Emphasis on effects of environmental changes on human society. (B:W)

**6270 (C E 6270) Environmental Management and Sustainable Development. (STE 6270) Cr. 4**

Prereq: C E 4210. Engineering design and development within sustainability constraints; theoretical, regulatory, and practical implications; Detroit and global applications. (Y)

**6330 Advanced Structural Analysis. Cr. 4**

Prereq: C E 4410. Effect of axial loads on stiffness of flexural members. Buckling of trusses and rigid frames. Matrix method of analysis. Complex structures. Computer applications. (F)

**6340 Bridge Design and Evaluation. Cr. 4**

Prereq: C E 4420. 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. (B)

**6370 Advanced Reinforced Concrete Design. Cr. 4**

Prereq: C E 4420. Theory and design of two-way slabs, footings, retaining walls, shear walls, and composite beams using ultimate strength design. Precast and prestressed concrete fundamentals. (W)

**6410 Advanced Steel Design. Cr. 4**

Prereq: C E 4420. 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. (W)

**6525 (U P 6520) Transportation Policy and Planning. Cr. 3**

Introduction to the role of transportation in the planning process involving both regional and urban considerations. (Y)

**6580 Geoenvironmental Engineering I. Cr. 4**

Prereq: C E 4510. 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. (Y)

**6660 Pavement Management Systems: Principles and Practices. Cr. 4**

Prereq: C E 4640. Principles and practices of pavement management at the network and project level: serviceability, pavement design models, economic analysis, and priority programming. (Y)

**7020 Construction Safety. Cr. 4**

Prereq: C E 6010 or consent of instructor. 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. (Y)

**7070 Risk and Reliability in Civil Engineering. Cr. 4**

Prereq: B E 2100 or former B E 3220, C E 4995, or equiv. 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. (B)

**7080 Civil Engineering Research Methods. Cr. 4**

Prereq: graduate standing. Methods of data collecting and statistical analysis in context of civil engineering. Applications of advanced statistical analysis techniques, theory, discussion of methodological limitations. (B)

**7100 Water Resources Systems Analysis and Economics. Cr. 4**

Prereq: C E 4210 or consent of instructor. Water resource and planning. Application of probability and operation research techniques for planning of water resources including engineering analysis, economic objective and water resource principles. (B)

**7190 Groundwater Modeling. Cr. 4**

Prereq: C E 6190. 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. (Y)

**7200 Environmental Engineering Operations and Processes. Cr. 4**

Prereq: C E 4210. Theoretical aspects and applications of various operations and processes of importance in pollution and control including sedimentation, flotation, coagulation, softening and filtration through granular media. Material Fee As Indicated In The Schedule of Classes (B)

**7220 Industrial Waste Treatment. Cr. 4**

Prereq: C E 4200 or consent of instructor. 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. Material Fee As Indicated In The Schedule of Classes (B)

**7260 Surface Water-Quality Modeling and Management. Cr. 4**

Prereq: C E 4210 or consent of instructor. 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. (I)

**7300 Advanced Structural Mechanics. Cr. 4**

Prereq: C E 6330 or consent of instructor. 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. (F)

**7350 Structural Dynamics. Cr. 4**

Prereq: C E 5350 or consent of instructor. Dynamic analysis of civil engineering structures, lumped-mass and distributed mass systems, linear and non-linear systems, approximate methods of analysis, computer applications, seismic design of buildings. (B)

**7370 Advanced Finite Element Analysis. Cr. 4**

Prereq: C E 5370. Advanced topics in finite element analysis; stability analysis and vibrations of structural systems. Modeling of complex structures, dynamic analysis, nonlinear structural problems. Computer applications (W)

**7410 Assessment and Upgrade of Structures. Cr. 4**

Prereq: C E 6370, 6410. Methods of determining deficiencies of existing structures, experimental assessment/appraisal of structures, analytical computer assessment/appraisal of existing structures, upgrade methodology of existing structures. (Y)

**7450 Nondestructive Testing for Structural Evaluation. Cr. 4**

Prereq: C E 4350, 4450. Nondestructive testing methods applicable to appraisal of structures and materials; visual, optical, holographic imaging; magnetic flux, eddy current, acoustic, ultrasonic techniques. Laboratory applications. (Y)

**7460 Advanced Composite Materials for Civil Infrastructure. Cr. 4**

Prereq: C E 4450 or consent of instructor. 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. (B)

**7500 Engineering Properties of Soils. Cr. 4**

Prereq: C E 5510, 5520, or consent of instructor. 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. (B)

**7510 Soil-Structure Interaction. Cr. 4**

Prereq: C E 5510 or 5520. Applications of finite difference methods to short- and long-term settlement analyses, applications of finite element methods to static and dynamic analyses of soil-structure interaction systems, and applications of boundary element methods in geotechnical engineering. (B)

**7520 Soil Dynamics. Cr. 4**

Prereq: C E 4510 or consent of instructor. Fundamental theories and numerical techniques for vibration analysis and their application to solution of dynamic and earthquake problems in geotechnical engineering. (B)

**7530 Advanced Soil Mechanics. Cr. 4**

Prereq: C E 4510 or consent of instructor. Stress-strain and volume-change behavior of sands and clays for both drained and undrained loading conditions, to gain insight in mechanical behavior of foundation soils. Material Fee As Indicated In The Schedule of Classes (B)

**7540 Soil Plasticity. Cr. 4**

Prereq: C E 5510, 5520, or consent of instructor. Theories of plasticity and rigid plasticity, theoretical backgrounds in state of the art elastoplastic stress-strain-strength models of soils for both static and cyclic loading conditions, numerical implementation of such models to boundary-value problems, and lower- and upper-bound solutions in geotechnical engineering. (Y)

**7550 Geosynthetics Engineering. Cr. 4**

Prereq: C E 4510. Fundamental principles for testing, design, and construction of geosynthetics in civil engineering applications. (B)

**7580 Environmental Remediation. Cr. 4**

Prereq: C E 4510 or equiv. or consent of instructor. Site assessment; soil and groundwater investigation for remediation; application of remediation technologies; legislation related to remediation. (Y)

**7600 Highway Safety and Risk Management. Cr. 4**

Prereq: C E 4640. Safety aspects of streets and highways; planning, design, implementation and evaluation of highway safety improvement projects and programs. Highway risk analysis and risk management systems. Material Fee As Indicated In The Schedule of Classes (B)

**7620 Traffic Engineering Control and Operation. Cr. 4**

Prereq: C E 4640. Traffic flow theories, macroscopic and microscopic models of traffic control, statistical analysis; design and application of intelligent transportation systems on traffic flow characteristics; evaluation. Material Fee As Indicated In The Schedule of Classes (Y)

**7630 Urban Transportation Planning. Cr. 4**

Prereq: C E 4600. 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. Material Fee As Indicated In The Schedule of Classes (F)

**7640 Economic Analysis in Transportation Systems. (I E 7640) Cr. 4**

Prereq: C E 4850 or I E 5870. 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. Material Fee As Indicated In The Schedule of Classes (Y)

**7670 Advanced Traffic Signal Systems. Cr. 4**

Prereq: C E 7620. Analysis and design of traffic signal systems. Hardware, communication and detection systems associated with microcomputer-based signal systems. Coordinated signal systems. (B)

**7685 Transit Research Seminar. Cr. 2**

Prereq: graduate standing. Advanced topics including: planning, design, operation, maintenance, scheduling, marketing and institu-

tion aspects; presented by established researchers and professionals. (B)

**7830 Construction Planning and Scheduling. Cr. 3**

Prereq: C E 6010 or consent of instructor. Planning and scheduling of construction projects, project networks and critical path methods, resource leveling, use of Primavera software. (Y)

**7840 Facilities Management. Cr. 3**

Prereq: C E 6010 or consent of instructor. Buildings and grounds operations and maintenance, planning design and construction, facilities economics and financing, real estate administration, environmental health and safety, health issues. (W)

**7850 Construction Contract Administration. Cr. 3**

Prereq: C E 6010. 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. (B)

**7860 Construction Accounting and Financial Management. Cr. 3**

Prereq: C E 6010. 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. (B)

**7890 Integrated Construction Project Management. Cr. 3**

Prereq: C E 7830 or consent of instructor. Construction project management framework, construction project integration, project scope management, time management, cost management, quality management, procurement management, risk management, communication management. (B)

**7990 Directed Study. Cr. 1-4 (Max. 6)**

Prereq: written consent of advisor, chairperson and engineering graduate officer for master's students; written consent of advisor, chairperson and Dean of Graduate Studies for Ph.D. students. (T)

**7995 Special Topics in Civil Engineering II. Cr. 1-4**

Prereq: consent of instructor. A consideration of special subject matter in civil engineering. Topics to be announced in Schedule of Classes. (I)

**7996 Research. Cr. 1-4 (Max. 6)**

Prereq: consent of advisor and chairperson. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: C E 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following C E 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: C E 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following C E 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: C E 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following C E 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in C E 9991- C E 9994. Offered for S and U grades only.





# Computer Science

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## Professors

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## Associate Professors

Monica Brockmeyer, Ming Dong, Daniel Grosu, Jing Hua, Hasan Jamil, Shiyong Lu, Andrian Marcus, Loren Schwiebert, Weisong Shi, Seymour J. Wolfson, Lihao Xu

## Assistant Professors

Marwan Abi-Antoun, Hamidreza Chitsaz, Nathan Fischer, Zaki Malik, Chandan Reddy, Hongwei Zhang, Dongxiao Zhu

## Lecturers

Suzanne Jennings, Kyla McMullen, Grace Metri

## Graduate Degrees and Certificate Programs

*POST BACHELOR CERTIFICATE in Computer Science*

*GRADUATE CERTIFICATE in Scientific Computing*

*MASTER OF ARTS with a major in Computer Science<sup>1</sup>*

*MASTER OF SCIENCE with a major in Computer Science*

*DOCTOR OF PHILOSOPHY with a major in Computer Science;  
a concentration in Bioinformatics and Computational Biology  
is available*

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 in order 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.

## Post Bachelor Certificate in Computer Science

The certificate program in computer science is designed for students who have obtained an undergraduate or graduate degree in another discipline from an accredited university, and who wish to acquire undergraduate-level competence in computer science skills. Students whose background includes courses that satisfy the College of

Engineering Group Requirements (see Undergraduate Bulletin) will generally apply for a second bachelor's degree rather than the Certificate in Computer Science.

The Post Bachelor Certificate Program verifies completion of the technical courses required for the Bachelor of Arts with a major in Computer Science and provides the minimal course requirements for admission to the graduate program in this field at Wayne State University. Students planning to enter the graduate program in computer science are strongly advised to take as many additional mathematics and computer science courses as their program will allow, in order to provide adequate background for graduate work.

**Admission:** Students who have received their undergraduate degree from Wayne State University should apply directly to the University Advising Center. Two copies of the student's transcript must be submitted to the University advisor.

Students who have received their undergraduate degrees from another institution must complete the application for Undergraduate Admission and request that official transcripts from the college or university granting their undergraduate degree be sent directly to the Office of Admissions.

**CERTIFICATE REQUIREMENTS:** Candidates for this certificate must achieve a level of competence in mathematics and computer science equivalent to completion of fifty-one credits as set forth in the following program. Prior preparation at the undergraduate level as evidenced in transcript notation or by demonstrable proficiency may be used to satisfy any of these requirements, except that twenty-three credits in computer science must be earned at Wayne State University. Current program requirements are as follows (students should consult a Computer Science advisor for recent updates):

1. A bachelor's degree or its equivalent in some discipline other than computer science with a grade point average of at least 2.0.
2. Mathematics 2010, 2020, and 2210.
3. Computer Science course work as follows (Please note that the core courses have been updated and include mandatory instructional laboratories. These labs should be taken concurrently with the corequisite lecture.):
  - a) Computer Science 1100, 1101, 1500, 1501, 2110, 2111, 2200, 2201, 3100, 3101, 4110, 4111, 4420, 4421, 4996 and 4997.
  - b) Four additional Computer Science courses of at least three credits each, numbered 3000 or above, excluding CSC 4990 and 4995.
  - c) A minimum of twenty-six credits in computer science course work must be completed at Wayne State University with a g.p.a. of at least 2.5.
  - d) A minimum grade of 'C' is required in CSC 1100, 1101, 1500, 1501, 2110, 2111, 2200, and 2201, respectively.

Students should consult an advisor for a written assessment of current certificate requirements. Although not required for a certificate, please note that CSC 4500 is required for admission to the graduate program.

## Graduate Certificate in Scientific Computing

The Graduate Certificate in Scientific Computing Program is an interdisciplinary program administered by the Department of Computer Science. It is designed to give students a deep and focused grounding in the techniques and tools necessary for all computational scientists and to integrate this understanding with the student's primary subject area. The certificate may be earned concurrently with a graduate degree or may be earned independently by students who already hold a B.A. or B.S. from an accredited institution.

**Admission** is contingent upon admission to the Graduate School (see page 18). Students must possess a B.A. or B.S. or equivalent degree from an accredited institution and must have a minimum

<sup>1</sup>An admissions moratorium is currently in effect for this program.

grade point average of 2.60. Applicants must be able to demonstrate a basic degree of computer literacy and facility in using at least one scientific computing program language such as Fortran, C, or C++. There is a three-year time limit for the completion of the certificate requirements.

Students who wish to earn the certificate independently of another course of graduate study need to submit the Application for Graduate Admission together with all other required materials. Students who wish to earn the certificate concurrently with the pursuit of a graduate degree need to complete only a brief program application in addition to the regular requirements for graduate admission.

**CERTIFICATE REQUIREMENTS:** The certificate is earned by successful completion of the Core Curriculum, for a total of twelve credits, with a grade of 'B' or better. For students working concurrently toward a graduate degree, nine of the twelve credits may be used to satisfy both degree and certificate requirements. Students who enter the program with advanced computing knowledge may, with the consent of the program administration and their graduate advisor, substitute no more than two courses from the advanced scientific computing interdisciplinary curriculum for core courses. For Scientific Computing (SCP) courses of instruction, see page 183.

#### *Core Curriculum (twelve credits):*

- CSC 6220 -- Parallel Computing I: Programming: Cr. 3
- SCP 7100 -- Scientific Systems Programming (CSC 5000) (ECE 7225): Cr. 3
- SCP 7200 -- (MAT 5100) Numerical Methods I: Cr. 3
- SCP 7400 -- Scientific, Engineering, & Medical Applications of Modeling and Simulation: Cr. 3

## Master's Degree Program — Admission and Matriculation

The Department of Computer Science awards the degree of Master of Science with a major in computer science under two plans (see below). The two plans are distinguished on the basis of the breadth and depth of the material covered. The Master of Science degree under the Plan A option is granted to students who pursue a more concentrated set of topics culminating in a master's thesis. The Master of Science degree under the Plan C option offers students experience in many areas of computer science.

The great variety of subjects that are part of computer science, together with the immense diversity of their applications, makes it imperative that students in the master's program maintain close contact with their advisors in order to achieve a coherent plan of study directed toward a specific goal. In particular, elections of courses should be made after consultation with and the approval of the student's advisor.

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants are expected to have attained a level of scholarship in the baccalaureate program equal to a grade point average of 3.0 or better, including adequate preparation in computer science and supporting courses in mathematics. Normally, the entering student will be expected to have fulfilled the equivalent of the requirements for the Bachelor of Science degree at Wayne State University and to have satisfied any deficiencies by successfully completing necessary prerequisite course work, before becoming an applicant for an advanced degree. The Graduate Record Examination (GRE) is required for admission to the Master of Science program.

Applicants must submit official transcripts from each college or university attended, three letters of recommendation, Graduate Record Examination scores, a statement of approximately 300 words describing the applicant's academic and professional goals, and the Computer Science Graduate Admission Evaluation Form. Admission Evaluation Form. In order to apply, please use the online application system, which can be found at <http://gradadmissions.wayne.edu/apply.php>

Students planning to pursue some of the more theoretical courses may find it necessary to have additional preparation in mathematics and/or computer science. The student should make a careful examination of the prerequisites for advanced courses in his/her areas of special interest before seeking admission. Prerequisite course work which is required as a condition of admission must be completed prior to electing graduate courses.

Upon admission, each student is assigned an advisor for guidance and direction in meeting degree requirements and academic goals. As the student's interests in computer science become more focused, a change in advisor may be necessary; forms for this purpose are available from the Department office. Such a change must be done prior to submitting the Plan of Work.

**Candidacy:** By the time twelve credits have been earned, a Plan of Work must be developed with the student's advisor and submitted to the Chairperson of the Computer Science Graduate Committee. In the Plan of Work the student indicates his/her choice of master's program, either Plan A or C (see below). Upon approval of the Plan of Work by the Graduate Committee and the Dean of the College of Engineering, the student is considered a degree candidate. The student is not permitted to take more than twelve credits in the master's program unless candidacy has been established. If the student has not graduated after two years as a candidate, the Plan of Work will be reviewed for possible adjustment.

**Scholarship/Academic Probation:** Students must maintain a minimum overall 3.0 grade point average. Failure to do so for one semester places the student on academic probation. Failure to do so for two semesters will result in the student's dismissal from the graduate program. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 154. The above requirements are those in force as of the publication date of this bulletin; however, students should keep in mind that the degree requirements for any particular student are those in force at the time of his/her admission.

## Areas of Research

**HIGH PERFORMANCE COMPUTING:** Computer Architecture, Computer Networking, Parallel and Distributed Computing, Ubiquitous Computing.

**INTELLIGENT SYSTEMS:** Artificial Intelligence, Bioinformatics, Computer Graphics, Computer Vision, Data Mining, Interactive Entertainment Systems, and Neural Networks.

**SOFTWARE and INFORMATION SYSTEMS:** Databases, Formal Software Verification, Health Care Information Systems, Multimedia Information Systems, Software Engineering, and Services Computing.

## Master of Science with a Major in Computer Science

**Admission Requirements:** see above.

**DEGREE REQUIREMENTS:** The Master of Science degree is offered under either Plan A or Plan C. Plan A requires thirty-three credits and includes eight credits for the completion of a thesis. A thesis is a technical paper describing the original creative work of the author. The master's thesis work is directed by the student's advisor together with a committee of at least two additional faculty members. All committee members must read and approve the thesis, after which time it must be presented at a public session prior to final acceptance. Students should see page 36 and consult the Graduate School for specifics on the format and presentation of the thesis. Plan C requires thirty-three credits in course work. There is no thesis required for the Plan C Master's degree.

### Course Requirements and Restrictions for Plan A:

1. CSC 6500 and CSC 6580.
2. CSC 8990 -- Graduate Seminar: Cr. 1.
3. At least one course must be taken at or above the 7000 level. (CSC 7990 does not satisfy the 7000 level requirement).
4. No more than three credits of CSC 7990, Directed Study, can be used to satisfy the degree requirements.
5. A student must have prior written consent of their advisor and the Graduate Committee Chair before registering for any course outside of the department.
6. At least twenty-five credits must be taken in residence.
7. CSC 8999 -- Master's Thesis Research and Direction: Cr. 8.

### Course Requirements and Restrictions for Plan C:

1. CSC 6500 and CSC 6580.
2. CSC 8990 -- Graduate Seminar: Cr. 1.
3. At least one course must be taken at or above the 7000 level. (CSC 7990 does not satisfy the 7000 level requirement).
4. CSC 7990 -- Directed Study, cannot be used to satisfy the Master of Science degree requirement.
5. All credits must be taken from CSC designated courses.
6. At least twenty-five credits must be taken in residence.

## Doctor of Philosophy with a Major in Computer Science

The Doctor of Philosophy degree is conferred upon individuals who have demonstrated the ability to make original contributions to the knowledge in the field of computer science.

The Ph.D. program develops experts and professionals who will continue in academic work, industry, or government. It encourages the attainment of excellence in research and scholarship necessary to catalyze the advancement of computer science. The fulfillment of the doctoral degree requirements is monitored primarily through the proficiency, qualifying, and prospectus examinations, and the presentation of the dissertation.

The doctoral program emphasizes research and the Department encourages prospective Ph.D. candidates to involve themselves in faculty projects at their earliest possible opportunity.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The successful applicant should possess a bachelor's or master's degree with a major in computer science or related field. In addition, applicants are expected to have attained a level of scholarship equal to a 3.3 grade point average or better in their most recent degree, along with adequate preparation in the computer science field and supporting courses in mathematics. Normally, the admitted student will be expected to have fulfilled the equivalent requirements for the Bachelor of Science in Computer Science, and to have satisfied any deficiencies in course content by successfully completing the prerequisite course work prior to becoming an applicant for the advanced degree.

Applicants must submit to the Department official transcripts from each college or university that they have attended, three letters of recommendation, Graduate Record Examination scores, a statement of approximately 300 words describing the applicant's academic and professional goals, and the Computer Science Graduate Evaluation Form. To apply, please use the online application system, which can be found at <http://gradadmissions.wayne.edu/apply.php>

**DEGREE REQUIREMENTS:** The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. The thirty credit disser-

ation registration requirement is fulfilled by registering for the courses CSC 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 154.

The computer science doctoral program is designed to be flexible, in order to meet the individual student's interests and to reflect the dynamic nature of the field. It is comprised of seven major stages:

**1. Advisor/Program Selection:** The first stage is devoted to the selection of a faculty advisor, taking course work, and the production of a Plan of Work in consultation with the student's faculty advisor. Students are encouraged to investigate the different areas of research available by talking with various graduate faculty members and attending research seminars held by the Department. Advisor selection must be done within the first semester of admission. The student will then begin course selection and outlining the Plan of Work. The approved Plan of Work must designate a primary area of research and a minor field outside the Department. The student is encouraged, in consultation with their advisor, to define his/her own primary and minor fields of interest by the selection of a cohesive grouping of available graduate courses. The Plan of Work must include at least thirty credits in course work at, or above, the 7000 level. Twenty-one of these credits must be in course work other than directed study (CSC 7990). Both CSC 6500 and CSC 6580 must be part of the students' plan of work.

**2. Proficiency Examination:** In order to demonstrate knowledge of undergraduate-level computer science fundamentals, all Ph.D. students are required to pass the proficiency examination within the first two semesters of starting the program. This exam is given once each semester, including the spring/summer term. The first attempt must be made in the students' first term in the program. In the first attempt, all three subject tests (Discrete Mathematics, Data Structures, and Computer Programming) must be attempted. Students are given two attempts to pass each subject. If all the exams are not passed after two attempts, the student will not be allowed to continue in the Ph.D. program.

**3. Qualifying Examination:** The Qualifying Exam is designed to determine the student's capacity for critical thinking as evident in both written and oral presentations. By the end of the second year in the program, students are required to make their first attempt at this exam. The exam consists of two parts. In the first portion of the exam the student must demonstrate his/her knowledge of theoretical computer science at the graduate level in each of the two core theory areas taught in CSC 6500 and CSC 6580, both of which the student must have passed with grades of 'B' or better, or must take an additional written exam on each subject. In the second portion of the exam, the competency of the student in their major area of the research is to be demonstrated in the form of a written document and accompanying oral presentation. The exam is offered in March and November, and the student will have two opportunities to pass both parts. Failure to pass both parts of the qualifying examination by the end of the fifth semester will result in the student's removal from the Ph.D. program. Upon successful completion of this requirement, a Report on Doctor of Philosophy Oral Examination form is submitted to the Graduate School.

**4. Dissertation Committee Formation:** With the approval of the Department Graduate Committee, the student establishes a Dissertation Committee that consists of four members. If there are co-chairs, the committee will consist of five members. At least two committee members are from the student's home department, Computer Science. The Chairperson and one additional member must hold a Regular Graduate Faculty appointment in the Department of Computer Science. The committee will also include an external member from outside the department. This Committee is responsible

for administering the prospectus and the dissertation defense of the candidate.

**5. Candidacy:** Candidacy is reached after the Plan of Work has been approved, the written qualifying examination has been passed, approximately fifty credits in course work have been completed, and the dissertation committee has been formed. Upon completion of these requirements, a Recommendation for Doctor of Philosophy Candidacy Status form is submitted to the Graduate School in order to advance the Ph.D. applicant to Candidate Status.

**6. Prospectus:** After completion of the written qualifying exam, the student will continue to develop the dissertation prospectus, a document that provides evidence that the prospective doctoral candidate has completed adequate preliminary research on the topic of the proposed doctoral dissertation. The principles for determining the scope of the prospectus are detailed in the Doctoral Dissertation Outline and Record of Approval form; general characteristics are available on the website: <http://www.gradschool.wayne.edu/>

**7. Dissertation:** The final stage is devoted primarily to the research and preparation of the dissertation. The dissertation research is presented and defended before the Dissertation Committee in a public lecture presentation. See the website for further information and graduation deadlines: <http://www.gradschool.wayne.edu/>

## — Ph.D. with a Concentration in Bioinformatics and Computational Biology

The concentration in bioinformatics and computational biology is intended for doctoral students in molecular biology and genetics or computer science who wish to receive research training in this specialization. Students will be prepared to do inter-disciplinary work in computer science, biology, and biomedical research. They will be trained to identify important biological problems that require bioinformatics and computational solutions, and to identify and apply appropriate approaches to address these problems. This concentration has been developed to provide outstanding and highly-motivated students with the specialized training needed to initiate productive work in their chosen careers. General admission and degree requirements are the same as cited above for the Ph.D. program. Concentration requirements are as follows:

### REQUIRED COURSES:

- CSC 7300 -- Bioinformatics I: Biological Databases and Data Analysis: Cr. 3
- CSC 7301 -- Bioinformatics I: Programming Lab: Cr. 1
- CSC 7410 -- Bioinformatics II: Cr. 4
- MBG 7010 -- Molecular Biology and Genetics: Cr. 4

**Electives** appropriate to each student's background and interests will be selected by the student and his/her advisor and could include courses such as: IBS/MBG 7030, Functional Genomics and Systems Biology.

*Note:* students must complete MBG 7010 before enrolling in the Bioinformatics courses and CSC 7300 and 7301 must be completed before CSC 7410.

## Assistantships and Fellowships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

The number and nature of assistantships can vary each academic year. Those interested in applying for a graduate teaching or research assistantship should submit their application materials to the Department of Computer Science by February 15 for the upcoming fall term, and by October 15 for the subsequent winter term. Late applications will be considered only on the basis of available positions. Along with the application students should submit three letters of recommendation, copies of transcripts, a departmental Graduate

Admission Evaluation form, GRE scores, and a description of their research interests and background.

## Research and Instructional Laboratories

The Department of Computer Science operates four instructional and multiple research laboratories comprising about 400 state-of-the-art workstations and servers.

**Webpage:** The Department maintains a home page at <http://www.cs.wayne.edu>

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the Undergraduate Bulletin with all other undergraduate courses. Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students. For interpretation of numbering system, signs and abbreviations, see page 652.

## COMPUTER SCIENCE COURSES (CSC)

### **5000 (SCP 7100) Scientific Systems Programming. (ECE 7225) Cr. 3**

Not for CSC or ECE major credit. Prereq: working knowledge of Fortran or C or C++. Introduction to basic programming tools required for scientific computing, including advanced programming concepts, code optimizations, mathematical prototyping language, and basic system administration. (F)

### **5050 (ECE 4050) Algorithms and Data Structures. Cr. 4**

Prereq: knowledge of C or C++ programming. Not for CSC major credit. 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. (T)

### **5250 Network, Distributed, and Concurrent Programming. Cr. 3**

Prereq: CSC 4420 and CSC 4421. 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. (Y)

### **5270 Computer Systems Security. Cr. 3**

Prereq: CSC 4420, CSC 4421, and CSC 5250 or consent of instructor. 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. (F)

### **5430 Game Programming and Design I. Cr. 3**

Prereq: CSC 2200 and CSC 2201; or CSC 5050; or consent of instructor. Fundamentals of game programming and game design using C++, DirectX, Windows, and C#. (F)

### **5431 Game Programming and Design I: Lab. Cr. 1**

Prereq: MAT 2010, C++ programming experience, or consent of instructor; coreq: CSC 5430. Laboratory for CSC 5430. Focus on modding, or making changes to existing programs to achieve specific results. (F)

### **5710 Design of Intelligent Information Systems. Cr. 3**

Prereq: CSC 4710 and CSC 5800. Object-oriented data modeling; intelligent office information systems; decision support systems; deductive databases; hypertext; specific applications in interfacing commercial databases and expert systems. (Y)

**5750 Principles of Web Technology. Cr. 3**

Prereq: MAT 2010, CSC 3750; or senior or graduate standing. 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. (F,W)

**5800 Intelligent Systems: Algorithms and Tools. Cr. 3**

Prereq: CSC 2200 and CSC 2201 or CSC 5050; MAT 2010. 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. (I)

**5830 Computational Modeling of Complex Systems. Cr. 3**

Prereq: CSC 2200 and CSC 2201; or CSC 5050. 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. (Y)

**5860 Introduction to Pattern Recognition and Document Analysis. Cr. 3**

Prereq: senior standing. Model of a pattern recognition system; representation techniques of classifiers; parametric and nonparametric classification methods; clustering; feature selection and extraction document processing, analysis, and classification. (Y)

**5870 Computer Graphics I. Cr. 3**

Prereq: CSC 2200 and CSC 2201, or CSC 5050; MAT 2250. Graphics devices, graphics primitives, 2-D transformations, windowing and clipping, modeling 3-D objects, 3-D viewing transformations, hidden surface removal, shading and color. (Y)

**5880 Principles of Natural Computing. Cr. 3**

Prereq: senior or graduate standing. Introduction to basic principles of information processing in biological systems; similarities and differences between biological systems and computing machines; implication of biological information processing principles and mechanisms for artificial intelligence. (I)

**5991 Special Topics in Computer Science. Cr. 1-4 (Max. 9)**

Prereq: senior or graduate standing, or consent of instructor. Topics to be announced in the Schedule of Classes. (I)

**6110 Software Engineering. Cr. 3**

Prereq: CSC 2200 and CSC 2201, or CSC 5050; MAT 2010. 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. (Y)

**6140 Knowledge-Based Software Engineering. Cr. 3**

Prereq: CSC 4110 and CSC 4111; or CSC 6110. Domain modeling and object-oriented analysis; formal requirements specification languages; construction of programs from formal specifications and correctness proofs; rapid prototyping; transformational approaches to program development; acquisition of software engineering knowledge; program comprehension; knowledge-based approaches to software maintenance and reuse; computer-supported cooperative work. (I)

**6170 Structure of Compilers I. Cr. 3**

Prereq: CSC 4500 and CSC 3200. Lexical analysis; syntactic analysis; error detection; translation into intermediate code; storage allocation; optimization techniques. (I)

**6220 Parallel Computing I: Programming. Cr. 4**

Prereq: CSC 2200 and CSC 2201, or CSC 5050; CSC 3100 and CSC 3101. Parallel computing concepts, examples of parallel computers, parallelism in algorithms / data / programs, experiences with state of the art parallel computers. (Y)

**6280 (CSC 6280) Real-Time and Embedded Operating Systems. (ECE 5640) Cr. 3**

Prereq: CSC 4420 and CSC 4421. 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. (I)

**6290 Data Communication and Computer Networks. Cr. 3**

Prereq: CSC 5250. Data communication fundamentals and principles governing computer communication networks. Components of networks, how they are connected; basics of design and implementation of network protocols. (Y)

**6430 Game Programming and Design II. Cr. 3**

Prereq: CSC 5430 and CSC 5431, or consent of instructor; coreq: CSC 6431. 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. (Y)

**6431 Game Programming and Design II: Lab. Cr. 1**

Prereq: CSC 5430 and CSC 5431 or consent of instructor; coreq: CSC 6430. Architecture and tools for modern game platforms. Game development environment; basic aspects of game engine design, graphics engine design, use of shaders. Material Fee as given in Schedule of Classes. (Y)

**6500 Theory of Languages and Automata. Cr. 3**

Prereq: CSC 4500. Recursive and recursively enumerable languages; decidability and computability; Rice's theorem; time complexity; space complexity. (F,W)

**6550 Introduction to Formal Software Verification. Cr. 3**

Prereq: CSC 4500 or CSC 5050 or consent of instructor. Propositional logic, predicate logic, proof systems, proofs, soundness, completeness. Verification of sequential programs, Floyd's verification method, Hoare logic. Unity. Program specification. Deterministic programs, nondeterministic programs. Compositional vs. non-compositional verification techniques. (I)

**6580 Design and Analysis of Algorithms. Cr. 3**

Prereq: CSC 3110. 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. (F,W)

**6620 (CSC 6620) Matrix Computation I. (ECE 5020) Cr. 4**

Prereq: CSC 2110 and CSC 2111 or equiv.; and MAT 2250 for computer science students, or B E 2550 or former B E 3040 for engineering students. 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. (Y)

**6710 Database Management Systems I. Cr. 3**

Prereq: CSC 4710. Data models, normal forms, relational systems and SQL, query optimization, object-oriented systems, object-relational systems, student Oracle project. (Y)

**6800 Artificial Intelligence I. Cr. 3**

Prereq: CSC 5800 or CSC 3200. 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. (Y)

**6830 Computational Modeling Laboratory. Cr. 3**

Prereq: CSC 5830 or consent of instructor. Practical experience in the implementation and documentation of computer models. (I)

**6860 Digital Image Processing and Analysis. Cr. 3**

Prereq: graduate standing. 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. (I)

**6870 Computer Graphics II. Cr. 3**

Prereq: CSC 5870. Representing curves and surfaces; solid modeling; fractal geometry; camera models; illumination models; ray tracing; radiosity methods; transparency; texture; graphics packages. Material Fee As Indicated In The Schedule of Classes (Y)

**6991 Topics in Computer Science. Cr. 1-4 (Max. 9)**

Prereq: senior or graduate standing. Current topics to be announced in the Schedule of Classes . (I)

**6995 Internship in Computer Science. Cr. 1-3 (Max. 4)**

Prereq: consent of advisor; 3.0 g.p.a. or above; completion of nine credits in computer science graduate course work. Open only to computer science majors. Offered for S and U grades only. Experience in industry using tools from the computer science curriculum. Students provide a written report based on the internship experience. (T)

**7100 Advanced Computer Architecture. Cr. 3**

Prereq: ECE 4680 or CSC 3100 or former CSC 4100. Recent advances in processor architectures; chip multiprocessors; system-on-chips; embedded systems; DSP processors; system software for system-on-chips; hands-on programming experience. (F)

**7110 Software Engineering Environments. Cr. 3**

Prereq: CSC 6110. Architecture of software engineering environments; syntax directed editors; CASE tools; tools for software maintenance; expert systems for software maintenance. (Y)

**7220 Parallel Computing II: Algorithms and Applications. Cr. 4**

Prereq: CSC 6220 or equiv. Problems in parallel algorithms: design, analysis, complexity. Cluster and grid computing: tools, programming, and applications. (Y)

**7260 Distributed Systems. Cr. 3**

Prereq: CSC 5250. Models of distributed systems, distributed synchronization, algorithms, consistency and replication models and algorithms, fault-tolerance in distributed systems. (B)

**7290 Advanced Computer Networking. Cr. 3**

Prereq: CSC 6290. 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). Material fee as indicated in Schedule of Classes. (Y)

**7300 (CSC 7300) Bioinformatics I: Biological Databases and Data Analysis. (MBG 7300) Cr. 3**

Prereq: MAT 2010; coreq: CSC 7301/MBG 7301 or consent of instructor. Concepts of bioinformatics; tools for storing and analysis of bioinformatics data. (F)

**7301 (CSC 7301) Bioinformatics I: Programming Lab. (MBG 7301) Cr. 1**

Coreq: CSC 7300/MBG 7300 or consent of instructor. Hands-on experience and exercises for CSC 7300/MBG 7300 lectures. Material Fee As Indicated In The Schedule of Classes (W)

**7410 (CSC 7410) Bioinformatics II. (MBG 7410) Cr. 4**

Prereq: CSC 7300, CSC 7301, MBG 7010. Biology of bioinformatics, DNA and protein sequencing, introduction of systems biology, mRNA expressions analysis, pathway and molecular machines analysis. (W)

**7430 Electronic Commerce. Cr. 3**

Prereq: CSC 2200 or consent of instructor. 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. (F)

**7550 Formal Verification of Concurrent and Distributed Systems. Cr. 3**

Prereq: CSC 6550 or consent of instructor. Formal reasoning about concurrent and distributed programs. CSP. Different non-compositional and compositional verification techniques. Examples of verification techniques to programs. Fairness. (I)

**7710 Database Management Systems II. Cr. 3**

Prereq: CSC 6710. Concurrency control, transaction processing, crash recovery, security, distributed and heterogeneous databases, data warehousing, data mining, multimedia systems, student Oracle project. (Y)

**7800 Artificial Intelligence II. Cr. 3**

Prereq: CSC 6800. 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. (Y)

**7810 Data Mining: Algorithms and Applications. Cr. 3**

Prereq: CSC 5800. Application of various basic/advanced data mining techniques to real-world problems. (W)

**7850 Artificial Neural Networks. Cr. 3**

Prereq: graduate standing. Introduction to computational characteristics of the brain, single layer neural nets, multilayer nets, learning and self-organization, adaptive and associative neural processing, current implementations and applications. (I)

**7860 Computer Vision. Cr. 3**

Prereq: CSC 6860. 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. (Y)

**7990 Directed Study. Cr. 1-5 (Max. 9)**

Prereq: written consent of advisor prior to registration. (T)

**7991 Advanced Topics in Computer Science. Cr. 1-4 (Max. 9)**

Prereq: graduate standing. Topics to be announced in Schedule of Classes. (B)

**8110 Seminar in Software Engineering and Environments. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: CSC 7110 and written consent of instructor. Discussion of current papers in the field. (B)

**8260 Seminar in Networking, Distributed Systems and Parallel Systems. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: written consent of instructor. Discussion of current research papers in the fields. (B)

**8550 Seminar in Formal Software Verification. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: CSC 7550 and written consent of instructor. Discussion of current research in the field. (B)

**8710 Seminar in Database Management Systems. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: CSC 7710 and written consent of instructor. Discussion of current papers in the field. (B)

**8800 Seminar in Artificial Intelligence. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: CSC 7800 and written consent of instructor. Discussion of current papers in the field. (B)

**8860 Seminar Topics in Computer Vision and Pattern Recognition. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: CSC 7860 and written consent of instructor. Discussion of current papers in the field. (B)

**8880 Seminar in Natural Computing and Adaptability Theory. Cr. 3 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: CSC 6880 or CSC 7880 or consent of instructor. Discussion of current research in the field. (B)

**8990 Graduate Seminar. Cr. 1 (Max. 2 for M.S.; max. 8 for Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. Required of all master's students. Discussion of current research by faculty and visitors. (F,W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: written consent of advisor prior to registration. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: CSC 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CSC 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: CSC 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CSC 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: CSC 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CSC 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in CSC 9991- CSC 9994. Offered for S and U grades only.

## SCIENTIFIC COMPUTING COURSES (SCP)

**7100 (SCP 7100) Scientific Systems Programming. (CSC 5000) (ECE 7225) Cr. 3**

Not for CSC or ECE major credit. Prereq: working knowledge of Fortran or C or C++. Introduction to basic programming tools required for scientific computing, including advanced programming concepts, code optimizations, mathematical prototyping language, and basic system administration. (F)

**7200 (MAT 5100) Numerical Methods I. Cr. 3**

Prereq: MAT 2030, MAT 2250 and CSC 1100 or familiarity with a programming language. Topics include: 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. (Y)

**7400 Scientific, Engineering and Medical Applications of Modeling and Simulation. Cr. 3**

Prereq: MAT 5100 or equiv. Widely-used specific examples of simulation and modeling in a broad range of disciplines using existing software packages. (W)

**8100 Seminar in Scientific Computing. Cr. 1**

Prereq: graduate student in any area of computational science, engineering, or medicine. Weekly seminar presented by students and outside speakers. (F,W)



# Electrical and Computer Engineering

Office: 3100 W. Engineering Building; 313-577-3920

Chairperson: Yang Zhao

Website: <http://www.ece.eng.wayne.edu>

## Professors

R. Arrathoon (Emeritus), G. Auner, R. F. Erlandson, X. Han, M.H. Hassoun, F. Lin, J. Meisel (Emeritus), M. B. Scherba (Emeritus), M. P. Shaw (Emeritus), D. Silversmith (Emeritus), H. Singh, P. Siy, L.Y. Wang, F. Westervelt (Emeritus), C.-Z. Xu, H. Ying, Y. Zhao

## Associate Professors

I. Avrutsky, S. Jiang, J. Liu, S. M. Mahmud, A. Pandya, N. Sarhan J. R. Woodyard, Y. Xu

## Assistant Professors

A. Basu, M-C. Cheng

## Adjunct Professors

M. Forrest, R. Gerhart, L. Rimai

## Graduate Degrees

*MASTER OF SCIENCE in Computer Engineering*

*MASTER OF SCIENCE in Electrical Engineering*

*DOCTOR OF PHILOSOPHY with a major in Computer Engineering*

*DOCTOR OF PHILOSOPHY with a major in Electrical Engineering*

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, stemming from advances in solid-state and integrated circuit technology, of smaller, less expensive and more powerful computers, parallel processing systems, microprocessors, and other data processors, and their utilization in a growing range of system applications; the growing use of data communication and sophisticated communication networks; the development of photonics and fiber optic devices for various applications ranging from optical data processing to communication; development of sophisticated control techniques, remote sensors and transducers for advanced automation and electric systems; the application of electronics to health care and industrial material diagnostics (such as noninvasive measurements and ultrasound imaging); the development of smart sensors and nanotechnology for advanced electronic devices and medical instruments, and energy conversion devices and distribution systems such as smart power grid and solar cells.

Part-time study in courses offered in the evening allows professionals working in local industry to pursue graduate degrees concurrently with their employment.

## Master of Science Degrees in Computer Engineering and Electrical Engineering

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18; or the Website: <http://www.ece.eng.wayne.edu>. All applicants whose B.S. degree is not from an ABET-accredited college or university are required to submit additional pertinent information, including results of the gen-

eral test of the Graduate Record Examination (GRE), publications, and/or inventions.

Students with B.S. degrees from selected science and engineering undergraduate programs not specifically related to this discipline may be admitted into the master's program after completing a sequence of undergraduate courses designed to prepare them for the graduate curriculum.

**DEGREE REQUIREMENTS:** In the areas of electrical engineering and computer engineering the Master of Science degree is offered by this department under the following options:

**Plan A:** Thirty-two credits including an eight credit thesis.

**Plan C:** Thirty-two credits of course work.

For either plan, students must complete one of the following sets of core requirements related to a specialization:

**Master of Science in Computer Engineering:** General, Computer Architecture and Digital Design, Parallel and Distributed Systems, Machine Intelligence and Applications.

**Master of Science in Electrical Engineering:** Biomedical Systems, Communications and Circuits, Control Systems, Solid State Devices, Smart Sensors, Micro- and Nano-technology, Power Systems, Optical Engineering.

For detailed requirements in the various core areas, students should consult with their department advisors.

## Doctor of Philosophy Degrees with Majors in Computer Engineering and Electrical Engineering

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants must have an overall grade point average of 3.6 in a Master of Science degree program. It is possible for outstanding students to enter the Ph.D program with only a Bachelor of Science degree. All applicants whose B.S. degree is not from an ABET-accredited college or university are required to submit additional pertinent information, including results of the general test of the Graduate Record Examination (GRE), publications, and/or inventions.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the bachelor's degree, including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses ECE 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. A minimum of thirty credits must be earned in courses numbered 7000 and above. Credits accrued in a Master of Science degree program may be applied as part of the doctoral requirements. A written Ph.D preliminary examination should be taken within the first two semesters of residency as a Ph.D. applicant. A written and oral Ph.D. qualifying examination to attain doctoral candidacy is given after completion of most of the course work at a time recommended by the candidate's advisor. (All graduate students are required to register for dissertation credits for any semester in which they utilize campus facilities or are under faculty supervision.) Students should consult page 37 for Graduate School regulations governing doctoral study.

## GRADUATE COURSES (ECE)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the



responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**5002 Research Projects in Electrical and Computer Engineering. Cr. 4**

Open only to AGRADU or Honors students. Prereq: written consent of instructor. Individual or team research projects. Literature survey on current topic; proposal for projects; final written report required. (T)

**5020 (CSC 6620) Matrix Computation I. Cr. 4 (LCT: 4)**

Prereq: CSC 2110 or equiv.; and B E 2550 for engineering students. 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. (I)

**5100 (BME 5010) Engineering Physiology. (CHE 5100) (I E 5100) (M E 5100) Cr. 4 (LCT: 4)**

Prereq: BME 5005 or consent of instructor. The basic principles of human physiology presented from the engineering viewpoint. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by simple mathematical models when feasible. (F,W)

**5120 Artificial Neural Systems I. Cr. 4**

Prereq: ECE 4330. Introduction to theory, architecture and application of artificial neural systems. Supervised, unsupervised and reinforcement learning in single- and multiple-layer neural networks. Associative neural memory recording and retrieval dynamics. Self-organizing maps. Learning capacity and generalization. (F)

**5170 (BME 5570) Design of Human Rehabilitation Systems. (I E 5170) (M E 5170) Cr. 4**

Prereq: senior standing. Design, fabrication and testing of customized hardware to aid handicapped patients. (F)

**5310 Active Filters. Cr. 4 (LCT: 4)**

Prereq: ECE 4330, ECE 4340. Introduction to active filter design. Basic concepts in filter theory. Op. Amp. and applications. Active-RC filter synthesis. Multiloop feedback design. Computer-aided design and sensitivity optimization. (Y)

**5325 (ECE 5325) Smart Sensors and Fuel Cells. (AET 5325) Cr. 4**

Prereq: senior standing in a B.S. program. Study of a multi-domain simulation program which enables engineers to study complex systems such as fuel cells, mems, and automotive power distribution systems. (F)

**5330 (EVE 5430) Modeling and Control of Power Electronics and Electric Vehicle Powertrains. (AET 5330) (ECE 5330) Cr. 4**

Prereq: senior standing in science or engineering discipline. Basic methodologies for modeling, control system design, system coordination, and optimization of renewable power sources and power electronics systems. (W)

**5370 (ECE 5370) Mechatronic System Design I. (BME 5530) Cr. 4**

Prereq: ECE 4600 or equiv.; written consent of instructor. Students work in small groups to design and build "smart" devices or systems. These products will integrate sensors, digital logic and/or microprocessors, and user interfacing. The products will be requested by a "client" and students will work as part of a cross-disciplinary team. (F)

**5380 (ECE 5380) Mechatronic System Design II. (BME 5540) Cr. 4**

Prereq: ECE 4600 or equiv.; written consent of instructor. Students work in small groups to design and build "smart" devices or systems. These products will integrate sensors, digital logic and/or microprocessors, and user interfacing. The products will be requested by a "client" and the students will work as part of a cross-disciplinary team. (W)

**5410 (ECE 5410) Power Electronics and Control. (EVE 5410) Cr. 4 (LCT: 3)**

Prereq: ECE 4330. Control of electric energy using solid-state devices, diodes, thyristors, triacs; mathematical analysis of circuits containing these devices; power converters and control; solid-state drives for motor control. (I)

**5430 Electric Energy Systems Engineering. Cr. 4 (LCT: 4)**

Prereq: ECE 4330. 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. (I)

**5440 Computer-Controlled Systems. Cr. 4**

Prereq: ECE 4470 or CHE 4600 or M E 4420 or former M E 5540. 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. (Y)

**5450 (EVE 5450) Control and Optimization for Integrated Electric-drive Vehicle Systems. (ECE 5450) Cr. 4**

Prereq: EVE 5430; open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. 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. (W)

**5470 Control Systems II. Cr. 4 (LCT: 4)**

Prereq: ECE 4470. 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. (Y)

**5500 Current Electronic and Photonic Materials Technology. Cr. 4**

Prereq: ECE 4570, B E 1300 and B E 1310, or consent of instructor. Introduction to new and innovative technologies for electronic and photonic materials synthesis and processing. New semiconducting materials. Growth of single crystals of semiconducting materials. Semiconducting material processing techniques. (F)

**5510 Electronic and Photonic Materials Laboratory. Cr. 2**

Prereq: ECE 5500 and written consent of instructor. Laboratory experience in state-of-the-art techniques for electronic and photonic materials synthesis, processing, and characterization. (W)

**5550 Solid State Electronics. Cr. 4 (LCT: 4)**

Prereq: ECE 4570, ECE 4800, or consent of instructor. 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. (Y)

**5575 Introduction to Micro and Nano Electro Mechanical Systems. Cr. 4**

Prereq: senior or graduate student in engineering or written consent of instructor. Introduction of fabrication technologies and designs of fundamental Micro/Nano Electro Mechanical Systems (MEMS/NEMS). (W)

**5610 Introduction to Parallel and Distributed Systems. Cr. 4**

Prereq: CSC 2000. Fundamentals of parallels and distributed systems. Programming experience in both computing environments. (F,W)

**5620 Embedded System Design. Cr. 4 (LCT: 4)**

Prereq: ECE 4600 or consent of instructor. Microcontroller architecture and its subsystems. Wired and wireless protocols for vehicular networking applications. Design and implementation of real-time embedded systems. (F,S)

**5630 Microcomputer Laboratory. Cr. 2 (LAB: 2)**

Prereq: ECE 4340, ECE 4600. Study of interrupt structures, interfacing with teletypes, floppy disks, cassettes, keyboards and displays, testing and evaluation of microprocessors. Design and development of complete digital systems using a microprocessor development system. Material Fee As Indicated In The Schedule of Classes (T)

**5640 (CSC 6280) Real-Time and Embedded Operating Systems. Cr. 3**

Prereq: CSC 4420 and CSC 4421. 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. (I)

**5650 Computer Networks and Programming. Cr. 4**

Prereq: CSC 2000; junior standing or above. Fundamentals of computer networks. TCP/IP and Internet protocols. Mobile and wireless networking. Network programming. (W)

**5680 Computer-Aided Logical Design and FPGAs. Cr. 4 (LCT: 4)**

Prereq: ECE 4680. Threshold, symmetric functions, and iterative networks. Multivalued and fuzzy logic. Complex sequential machine realization. State equivalence and minimization. Automata and linear machines. State identification and fault detection. (T)

**5690 Introduction to Digital Image Processing. Cr. 4**

Prereq: B E 2500, ECE 4330, ECE 4050, or equiv. Concepts of digital image processing from an operational perspective, with good exposure to theory. Accessibility of DIP to engineering. Detailed review of current techniques. (F)

**5700 Analog and Digital Communication Circuits. Cr. 4 (LCT: 4)**

Prereq: ECE 4570 and ECE 4700. Amplitude, frequency, pulse modulation and digital modulation. Detection, operational amplifiers; introduction to linear integrated circuits. Digital modulation. (I)

**5730 Communications Laboratory. Cr. 2 (LAB: 2)**

Prereq: ECE 4700; coreq: ECE 5700. Analog and digital modulation techniques, pulse code modulation, delta modulation, FSK, PSK and ASK, data communication, signal processing. Material Fee As Indicated In The Schedule of Classes (Y)

**5760 Fiber Optics Engineering Laboratory. Cr. 2**

Prereq: ECE 4850. Laboratory study of basic components of fiber optic systems: fibers, semiconductor lasers and light emitting diodes, photodetectors, digital and analog receivers and transmitters, filters, and couplers. (Y)

**5770 Digital Signal Processing. Cr. 4 (LCT: 4)**

Prereq: ECE 4700. Analysis of discrete signals and systems. Applications to digital filtering, active filters, digital communication and encoding. (Y)

**5870 Optical Communication Networks. Cr. 4 (LCT: 4)**

Prereq: ECE 4700; 4850. Laser and detectors; modulation and demodulation; optical transmitters and receivers; optical filters; optical amplifiers; architecture and network control; multiaccess networks; FDDI networks, SONET/SDH, ATM, system performance. (Y)

**5885 Security and Electronic Commerce. Cr. 4**

Prereq: ECE 4050. Basic principles of computer security and cryptography; focus on electronic commerce applications. (W)

**5990 Directed Study. Cr. 1-4 (Max. 4) (IND: 1)**

Prereq: admission to M.S. program, written approval of proposed study outline by advisor and chairperson prior to registration. Supervised study and instruction in the field selected by the student. (T)

**5995 Special Topics in Electrical and Computer Engineering I. Cr. 1-4 (Max. 8) (LCT: 1)**

Prereq: written consent of instructor. Maximum of eight credits in Special Topics may be elected in any one degree program. Special subject matter in electrical and computer engineering. Topics to be announced in Schedule of Classes. (T)

**6100 (ECE 6100) Enabling Technology. (BME 6500) (O T 6620) Cr. 3-4**

Prereq: consent of instructor. Principles of application of enabling technology: across life stages, for differing ethnic and cultural backgrounds, for individuals with varying functional abilities. (W)

**6180 (BME 6480) Biomedical Instrumentation. (I E 6180) (M E 6180) Cr. 4 (LCT: 4)**

Prereq: ECE 3300, BME 5010 or BMS 6550 (or former BMS 5550), and BME 5020. Engineering principles of physiological measurements, signal conditioning equipment, amplifiers, recorders and transducers. Recent advances in instrumentation. (F)

**6550 Solid State Devices for Wireless Communications. Cr. 4 (LCT: 4)**

Undergrad. prereq: consent of instructor; grad. prereq: admission to master's program. High-speed semiconductor devices with emphasis on application for wireless communications. Si-Ge heterostructures and devices as alternative for the conventional Si technology. Advanced concepts on electronic properties and fabrication of heterostructures. Solid state devices in the microwave region. (Y)

**6570 (ECE 6570) Smart Sensor Technology I: Design. (BME 6470) (PHY 6570) Cr. 4**

Prereq: B.S. degree in engineering or science. Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. (F)

**6600 Engineering Software Design. Cr. 4 (LCT: 4)**

Prereq: CSC 2220 or ECE 5620. Software engineering principles developed and integrated to identify, modify, extend, and apply computational and information-processing methods in a variety of systems applications. Structural analysis, design and programming is assumed and integrated into an engineering systems design context. (Y)

**6640 Database Machines. Cr. 4 (LCT: 4)**

Prereq: ECE 5620. Theory, design, and applications of database machines. Hardware implementation of database functions; search, sort, relation operations, and the like. (Y)

**6660 Introduction to VLSI Systems. Cr. 4 (LCT: 4)**

Prereq: ECE 4680. Survey of very large scale integrated circuit components and design procedures. MOS fabrication, MOS gates, circuit architecture, device design, manufacturing and interface techniques. Material Fee as given in Schedule of Classes. (T)

**6991 Industrial Internship. Cr. 1-4 (Max. 4)**

Offered for S and U grades only. Prereq: graduate standing. Internship experience that satisfies the curricular practical training requirements. (T)

**7030 Mathematical Methods in Engineering I. Cr. 4**

Prereq: ECE 4330. 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. (Y)

**7100 (BME 7100) Mathematical Modeling in Impact Biomechanics. (I E 7100) (M E 7100) Cr. 3-4 (LCT: 4)**

Prereq: M E 3400, and ECE 5100 or BMS 6550 (or former BMS 5550); consent of instructor. Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. (W)

**7120 Artificial Neural Systems II. Cr. 4**

Prereq: ECE 5120. Select current topics. Capabilities of neural networks to carry general computations. Learning theory and information storage in ANNs. Generalization of a system's map from examples. Collective computations in search and optimization. Statistical neurodynamics. Applications to computationally complex problems. (Y)

**7160 (BME 7160) Impact Biomechanics. (I E 7160) (M E 7160) Cr. 4 (LCT: 4)**

Prereq: M E 2400, and BME 5010 or BMS 6550 (or former BMS 5550). 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. (Y)

**7225 (SCP 7100) Scientific Systems Programming. (CSC 5000) Cr. 3**

Not for CSC or ECE major credit. Prereq: working knowledge of Fortran or C or C++. Introduction to basic programming tools required for scientific computing, including advanced programming concepts, code optimizations, mathematical prototyping language, and basic system administration. (F)

**7400 (ECE 7400) Medical Robotics and Systems. (BME 7400) Cr. 4**

Prereq: ECE 5020 or equiv. Technology that interfaces computer engineering and electronics with surgery; introduction of key concepts in the field, including medical robotics, image-guided surgery, segmentation/3D modeling, medical simulation, and medical sensors. (W)

**7420 (M E 7590) Nonlinear Control Systems. Cr. 4**

Prereq: M E 5550 or ECE 5470 or ECE 5440. Review of nonlinear control problems in industries, analysis of nonlinear systems using phase plane, Lyapunov describing function methods, design of nonlinear controllers, applications to the control of robots, aircrafts and automobiles. (W)

**7430 Control of Discrete Event Systems. Cr. 4**

Prereq: ECE 5440 or ECE 5470 or M E 5550. Automation model of discrete event systems; logical model of processes; permissive and forceful control; communicating sequential processes (CSP); calculus of communicating systems (CCS); timed discrete event systems; performance analysis. (B)

**7440 Dynamic Systems and Optimal Control. Cr. 4 (LCT: 4)**

Prereq: ECE 5440 or ECE 5470 or M E 5550. Formulation of optimal control problems. Pontryagin's maximum principle and necessary conditions for optimality, with applications. Dynamic programming; Hamilton-Jacobi equation; optimal feedback control; stochastic systems. (I)

**7450 System Identification and Adaptive Control. Cr. 4**

Prereq: ECE 5440 or ECE 5470 or M E 5550. Problem formulations for system identification and adaptive control. Identification for non-parametric models and parametric models. Online identification controls. Design of self-tuning and model reference adaptive control schemes. Stability, robustness and performance analysis of adaptive control systems. (Y)

**7455 (EVE 7450) Embedded Systems for Vehicles. (ECE 7455) Cr. 4**

Prereq: EVE 5430; B.S. degree in an engineering or math-based science program. 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. (F)

**7530 Advanced Digital VLSI Design Using VHDL. Cr. 4**

Prereq: ECE 6660. Behavioral, data flow, and structure VHDL modeling. CADENCE CAD tools used to simulate and generate the schematic and layout of the synthesized VHDL code. (Y)

**7550 Advanced Solid State Electronics I. Cr. 4 (LCT: 4)**

Prereq: ECE 5550 or ECE 6550. Review of solid state theories. Electrical conductivity, relaxation times and the Boltzmann equation. Mobility, Hall effect, contacts and application to negative differential conductivity devices such as the Gunn diode. (Y)

**7570 (ECE 7570) Smart Sensor Technology II: Characterization and Fabrication. (BME 7470) (PHY 7580) Cr. 4**

Prereq: ECE 6570. Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Material Fee as given in Schedule of Classes. (W)

**7610 Advanced Parallel and Distributed Systems. Cr. 4 (LCT: 4)**

Prereq: ECE 5610 or ECE 5650. Advanced topics in parallel and distributed computing, multicore and parallel architecture, communication, synchronization, parallel algorithms and programming, load balancing and scheduling, security. (W)

**7650 Scalable and Secure Internet Services and Architecture. Cr. 4**

Prereq: graduate standing; ECE 5610 or ECE 5650. Advanced principles of networks and distributed computing systems, the Internet, Internet server and data center, content delivery networks, performance scalability, energy-aware resource management, security and privacy, cost-effective engineering design. (W)

**7655 Multimedia Computing and Networking. Cr. 4**

Prereq: ECE 5650. Research-oriented course. Emphasis on network and server support for multimedia streaming over the Internet and wireless networks, video conferencing, and other emerging multimedia applications. (W)

**7660 Parallel Computer Architecture. Cr. 4 (LCT: 4)**

Prereq: ECE 5610, ECE 5620. Review of parallel computer architectures, including symmetric multiprocessors and scaleable machines. Parallel software basics for various architectures. Fundamental issues including cache coherence, interconnection network, and synchronization; influence of these on performance of applications. (Y)

**7670 Pattern Recognition. Cr. 4 (LCT: 4)**

Prereq: ECE 7030. Statistical methods in pattern recognition. Estimation, feature extraction and classification. Applications of pattern recognition techniques. (Y)

**7680 Advanced Digital Image Processing and Applications. Cr. 4**

Prereq: ECE 5690 or equiv. 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. (Y)

**7690 Fuzzy Systems. Cr. 4**

Prereq: ECE 4330 or consent of instructor. From basic fuzzy set theory to advanced topics such as neuro-fuzzy systems. (Y)

**7700 Statistical Communication Theory. Cr. 4 (LCT: 4)**

Prereq: ECE 5700. Decision theory, binary decisions with single and multiple observations, signals in additive Gaussian noise, sequential decision theory, estimation theory, Kalmon filtering. (Y)

**7730 Telematics. Cr. 4**

Prereq: ECE 5700. Introduction to automotive telematics, mobile communication channels, error correction, automatic crash response, vehicle diagnostics, vehicle tracking, vehicle safety, navigation, and current topics in telematics. (W)

**7830 Information Optics. Cr. 4**

Prereq: ECE 5870 or 4850 and 4700. Wave theory, optical signal processing, nonlinear optical interactions, optical switching, optical interconnection, information storage, optical sensing and optical information display. (Y)

**7850 Fiber and Integrated Optics. Cr. 4**

Prereq: ECE 5870. 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. (Y)

**7990 Directed Study. Cr. 1-8 (Max. 12) (IND: 1)**

Prereq: written consent of advisor, chairperson and graduate officer for master's students; written consent of advisor, chairperson and Dean of Graduate Studies for Ph.D. students. Outline of proposed study and petition must be submitted to graduate committee in advance of registration. Supervised study and instruction in an advanced topic. (T)

**7995 Special Topics in Electrical and Computer Engineering II. Cr. 1-4 (Max. 12) (LCT: 1)**

Prereq: written consent of instructor. Maximum 12 credits in Special Topics may be elected in any one degree program. A consideration of special subject matter in electrical and computer engineering. Topics to be announced in Schedule of Classes. (T)

**7996 Research. Cr. 1-8 (Max. 8)**

Prereq: written consent of advisor and chairperson. Design, investigation and experimental work on some phase of electrical and computer engineering. Written report required. (T)

**7999 Master's Essay Direction. Cr. 2 (IND: 2)**

Prereq: consent of advisor. (T)

**8550 Advanced Solid State Electronics II. Cr. 4 (LCT: 4)**

Prereq: ECE 7550. Current topics in solid state phenomena, devices, and technology such as heterojunctions, metal-semiconductor barriers and junctions, photoemissive cathodes and amorphous devices used in electrical and optical memory units and solar cells. (I)

**8570 (ECE 8570) Smart Sensor Technology Seminar. (BME 8470) (PHY 8570) Cr. 1**

Prereq: ECE 6570, 7570. Technological advances. Interaction of research experience in smart sensors and integrated devices. (W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.) (IND: 1)**

Prereq: written consent of graduate advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester

following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: ECE 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ECE 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: ECE 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ECE 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: ECE 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ECE 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in ECE 9991- ECE 9994. Offered for S and U grades only.

**9997 Doctoral Seminar. Cr. 1-4 (Max. 4)**

Prereq: written consent of doctoral advisor. (T)



# Industrial and Systems Engineering

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Chairperson: Leslie Monplaisir

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## Professors

Kenneth R. Chelst, Frank E. Plonka, Nanua Singh, Kai Yang

## Associate Professors

Ratna Babu Chinnam, R. Darin Ellis, Kyoung-Yun Kim, Olugbenga Mejabi, Leslie Monplaisir, Gary Wasserman

## Associate Professors - Research

Julia Gluesing

## Assistant Professors

Evrin Dalkiran, E. Alper Murat, Qingyu Yang

## Senior Lecturers

Dean Pichette

## Executives in Residence

Jerry W. Leman

## Graduate Degrees

*BRIDGE GRADUATE CERTIFICATE in Engineering Management*

*BRIDGE GRADUATE CERTIFICATE in Systems Engineering*

*MASTER OF SCIENCE in Engineering Management*

*MASTER OF SCIENCE in Industrial Engineering*

*MASTER OF SCIENCE in Manufacturing Engineering*

*DOCTOR OF PHILOSOPHY with a major in Industrial Engineering*

*Industrial Engineering* is a broadly-based integrated field 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. He/she plays an important role in defining information needs and developing strategies for improving decision making in existing systems. The skills of the industrial engineer, however, can be applied in more than just the traditional production environment. In the growing service sector of the economy - including health care delivery, public safety, air transportation, energy, and banking - issues of resource management, scheduling, quality of service, and systems design are of increasing importance.

*Manufacturing Systems Engineering* was traditionally involved in developing process capabilities to realize the output of design engineering. Today, design and manufacturing systems engineering is becoming reciprocally integrated and both groups work together in teams to assure the soundness of design and producibility of goods and services. The manufacturing systems engineer must have an understanding of the design process as well as special expertise in

the knowledge and understanding of the production process, which is now computer-based and provides flexibility through numerical control. The manufacturing systems engineer is responsible for designing and implementing the cells and production lines which become the basic units of manufacture. Increasingly, such production units are becoming parts of an integrated factory system, and are not simply islands of automation. The manufacturing systems engineer must understand the multi-layered control architecture of the integrated factory, and the computer-based technologies which enable it.

*Engineering Management* has grown in importance as today's engineer must possess the necessary tools for effective technical management. Inherent in successful leadership is an understanding of the business functions of an organization, tools used in the decision-making process, and skills for efficient project management, among others. An effective engineering manager will utilize industrial engineering skills to develop strategies that improve the product development process, manage quality and productivity, and advance techniques in world-class manufacturing. More often, a business overview is critical to developing and improving these processes.

*Systems Engineering* is an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem.

The bridge certificate program in Systems Engineering provides formal courses for working engineers and professionals to enhance their knowledge in the area of systems engineering. Coursework covers a broad range of methods, practices and tools in all aspects of this field. Students who complete this program have the option to continue into the M.S. program in Industrial Engineering or Engineering Management. Credits earned as part of the Bridge Graduate Certificate in Systems Engineering can be applied towards the M.S. degree requirements as long as they were completed with a minimum grade of 'B-' and within six years of the completion date for the M.S. Applicants must have a Bachelor of Science degree in engineering.

For a complete description of this program, see page 190 or contact Dr. Darin Ellis via email at: [rdellis@wayne.edu](mailto:rdellis@wayne.edu) or Gail Evans via email at: [gevans@eng.wayne.edu](mailto:gevans@eng.wayne.edu)

*Facilities:* The Department maintains laboratories in systems simulation, computer-aided manufacturing, smart engineering systems, ergonomics, design, and concurrent engineering.

*Master's Degree Programs* of this department offer the flexibility of full or part-time study. Most of the courses are offered in the evening, allowing students to continue full-time employment in local industries. Some program classes are offered at off-campus sites. Many of the graduate-level courses are also offered in the evening, allowing graduate students also to continue full-time employment in local industries. To further accommodate the working student population, several engineering courses are offered online (refer to the schedule of classes to determine availability).

**All incoming M.S. students** must demonstrate competency in undergraduate probability and statistics, through successful completion of B E 2100, or by passing a Department offered placement exam. If the student fails to show competency, he or she may be required to complete a pre-requisite course in probability and statistics.

## Bridge Graduate Certificate in Engineering Management

Engineering, manufacturing, and service corporations need technical leadership to survive in the global market. As labor markets become increasingly efficient, job seekers and those currently employed must focus on improving their value-added skills to an organization. The

Department of Industrial and Systems Engineering at Wayne State University has developed an eighteen credit Engineering Management Certificate Program specifically for high potential engineers and other technical employees on management tracks within their organizations.

The Engineering Management Certificate Program prepares graduates of technical bachelor's degree programs for progressively responsible roles within the technical arena, developing them as leaders and agents of change. A special emphasis is placed on cultivating knowledge and skills that students can immediately apply in their careers. The engineering management core covers subjects important to managing an engineering, manufacturing, service, or technical function. The business core presents an overview of topics critical to the technical or service manager. Rather than arranging courses into traditional structures, this program targets learning to critical issues facing technology-based product development, manufacturing, and service enterprises. This format results in an innovative curriculum focused on engineering management issues.

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School, for requirements, see page 18. The Engineering Management Certificate Program has the same admissions requirements as the Master's in Engineering Management (see below). Specific requirements include:

1. Baccalaureate degree in engineering or other technical field from an institution accredited by the Accreditation Board for Engineering and Technology (ABET). Applicants from non-ABET institutions must submit GRE scores.
2. At least one year of full-time work experience as a practicing engineer or technical leader.
3. Grade point average (g.p.a.) of 3.0 in the upper division of their undergraduate program.
4. Applicants whose undergraduate education is deficient in prerequisites for graduate classes may be required to take background courses that will NOT count toward the eighteen-credit degree requirement.
5. Applicants with less than 3.0 grade point average (g.p.a.) may be considered for admission under special circumstances.

**CERTIFICATE REQUIREMENTS:** Students must complete eighteen credits of course work including:

- B A 6000 -- Intro. to Financial Reporting (accounting Module): Cr. 3
- B A 6005 -- Basics of Financial Management: Cr. 2
- I E 6005 -- Automotive Engineering Statistics: Cr. 3
- I E 6310 -- Lean Operations/Manufacturing: Cr. 2
- I E 6560 or I E 7610
  - Deterministic Optimization: Cr. 4
  - Fundamentals of Six Sigma: Cr. 4
- I E 6840 -- (MGT 6840) Project Management: Cr. 1-4
- I E 7830 -- Management of Technology Change: Cr. 2

For additional information, please contact Dr. Kenneth Chelst, Program Director via email at: [kchelst@wayne.edu](mailto:kchelst@wayne.edu) or Gail Evans via email at: [gevans@eng.wayne.edu](mailto:gevans@eng.wayne.edu)

## Bridge Graduate Certificate in Systems Engineering

This program is designed for technical professionals with work experience and a degree in engineering. The program consists of twelve credits of coursework scheduled for completion by working engineers in two years. The certificate can serve as a bridge to the M.S. degree in Engineering Management or Industrial Engineering.

**Admission:** Applicants must meet the requirements for admission to the Graduate School (see page 18) and either the M.S. program in Industrial Engineering (see page 190) or in Engineering Management (see page 191). They must hold a baccalaureate degree in engineering from an institution accredited by the Accreditation Board for Engi-

neering and Technology (ABET). In addition, they must have earned a grade point average of at least 2.8 in the upper division of their undergraduate program or have at least three years of full-time engineering work experience. International students are required to complete the GRE exam.

**CERTIFICATE REQUIREMENTS:** Students must complete twelve credits consisting of one required foundation course in systems engineering; at least one required course in project management, risk/decision analysis or problem solving; and one elective course. At least one course must be 7000-level or above.

Students may later apply all certificate credits toward the Master's degree requirements in Engineering Management or Industrial Engineering, provided any such credits have been earned with a minimum 'B' grade and are within the six years time limit for completing the Master's degree.

SYE 6490 -- (I E 6490) Introduction to Systems Engineering: Cr. 2

And at least one of the following:

SYE 5470 -- (M E 5470) Creative Prob. Solving in Dsgn. and Mfg.: Cr. 4

SYE 6840 -- (MGT 6840) Project Management (I E 6840): Cr. 1-4

SYE 7720 -- (I E 7720) Engineering Risk and Decision Analysis: Cr. 4

Electives (6 credits max):

SYE 7995 -- (I E 7995) Graduate Special Topics: Cr. 1-4

SYE 7998 -- (I E 7998) Engineering Mgt. & Leadership: Cr. 2

**Graduation Requirements:** All course work must be completed in accordance with the regulations of the Graduate School and the College of Engineering governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively. Students may enroll on a full-time or part-time basis but must complete requirements within three years of admission.

## Master of Science in Industrial Engineering

The master of science degree program in industrial engineering is built on core courses designed to provide breadth of experience in systems modeling, analysis, and applications common in industrial engineering. Upon this foundation, the student constructs a specialization in one of the following areas: quality management, lean operations management, or manufacturing systems.

**Admission** to the master's program is contingent upon admission to the Graduate School; for requirements see page 18. Applicants with a baccalaureate degree in engineering from an institution accredited by the Accreditation Board for Engineering and Technology (ABET), and who have earned a grade point average of at least 2.8 in the upper division of their undergraduate program are eligible for admission. International students are required to complete the GRE exam. Additionally, applicants with an undergraduate degree in mathematics, physics, computer science, or another discipline with a strong analytical base may be considered for admission.

**DEGREE REQUIREMENTS:** The Master of Science in Industrial Engineering is offered under the following options:

**Plan A:** Thirty-two credits including an eight credit thesis.

**Plan C:** Thirty-two credits of course work.

Both options require a common core of eight credits (for the general option, twelve core credits) as described below. While the core provides breadth to the student's program, depth of understanding is acquired through completion of the required twenty-four credits in one of the specialization areas. Appropriate courses for specific specializations can be found on the department's website. Students interested in an area not among the specializations cited should elect the general option. A minimum twenty credits of specialization are required and up to eight credits may be earned in courses outside the Industrial/Mechanical Engineering Department, but only with prior approval of the graduate advisor.

**Thesis Option:** If a thesis option (Plan A) is selected, eight credits of Master's Thesis Research and Direction (I E 8999) may be required, which integrates with the student's plan of work to create depth of understanding in an area relevant to the program objective. In such cases, the requirement for the twenty-four credit hour specialization is waived, and an individually-designed program of study must be approved by both the thesis research advisor and the M.S. program officer.

## Master of Science in Manufacturing Engineering

The master of science degree program in manufacturing engineering is built on a core designed to provide a firm foundation in the various elements of manufacturing and systems engineering. Building on this preparation, the student constructs a specialization in one of three areas: integrated product engineering, computer integrated manufacturing, or quality engineering.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants with a baccalaureate degree in engineering from an institution accredited by the Accreditation Board for Engineering and Technology (ABET) and who have earned a grade point average of at least 2.8 in the upper division of their undergraduate program are eligible for admission. International students are required to complete the GRE exam. Applicants whose admission credentials show deficiency in background material will be required to successfully complete pre-requisite courses that will NOT count toward the thirty-two credit degree requirement.

Because of the interdisciplinary nature of the program, applicants whose undergraduate education is deficient in prerequisites for graduate classes may be required to take background courses which will NOT count toward the thirty-two credit degree requirement.

**DEGREE REQUIREMENTS:** The Master of Science in Manufacturing Engineering is offered under the following options:

**Plan A:** Thirty-two credits including an eight credit thesis.

**Plan C:** Thirty-two credits of course work.

Appropriate courses for specific specializations can be found in the departmental advising manual on the Department's website.

**Thesis Option:** If a thesis option (Plan A) is selected, eight credits of Master's Thesis Research and Direction (I E 8999) may be required, which integrates with the student's plan of work to create depth of understanding in an area relevant to the program objective. In such cases, an individually-designed program of study must be approved by both the thesis research advisor and the M.S. program officer.

## Master of Science in Engineering Management

The department offers two options for a Master of Science in Engineering Management (EMMP). Students should read both sections carefully to determine which program they are eligible for.

**On-campus Program:** The on-campus Master of Science in Engineering Management program is designed to build both technical competence and business acumen. The program builds understanding and skills critical to the support of fast-to-market strategies, which also guarantee product quality, and cost minimization. A systematic analytical framework is developed and coupled with tools for managing the engineering and technical functions within manufacturing-based companies. This cross-disciplinary program draws from the expertise of the College of Engineering and the School of Business Administration.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The program is intended for the practicing engineer or technical leader with an

undergraduate degree from an accredited engineering program, who possesses at least two years of full-time work experience. The work experience requirement is waived for U.S. based students who are currently working full-time in an engineering type job.

**DEGREE REQUIREMENTS:** This program is offered under Plan B: forty-two credits including a six-credit final project. There are four core segments: engineering management, business cognate, engineering cognate, and capstone project. A detailed course outline is available on the Department's website.

**On-site Program (Automotive Supplier):** The on-site (automotive supplier) Master of Science in Engineering Management program is limited to working professionals at organizations with a partnership agreement with the Department of Industrial and Systems Engineering. Engineers with high potential are selected by management to participate in a three-year, two-evenings-per-week curriculum. The courses are team based, and include two years of class studies and team projects in areas such as leadership, quality management, global marketing, robust design, and information systems. The final year of the program involves a team capstone project, which provides application of the knowledge gained to a current strategy or opportunity within their organization.

**Admission** to this program is contingent upon admission to the Graduate School, (for requirements, see page 18) and is limited to management selected individuals from partner organizations. For more information on admission or becoming a partner organization, please see the Executive Education pages of the ISE website: <http://.ise.wayne.edu> or contact the EMMP program chair.

**DEGREE REQUIREMENTS:** This program is offered under Plan B: forty-five credits including an eight-credit final project. There are four core segments: engineering management, business cognate, engineering cognate, and capstone project. A detailed course outline is available on the Department's website.

## Doctor of Philosophy with a Major in Industrial Engineering

The Doctor of Philosophy degree is conferred upon individuals who have demonstrated the ability to make original contributions to the knowledge in this field. The Ph.D. program develops experts and professionals who will continue in academic work, industry, or government. It encourages the attainment of excellence in research and scholarship necessary to catalyze the advancement of industrial engineering.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In general, applicants are required to have a Master of Science degree in industrial engineering or operations research with a minimum grade point average of 3.5. Students with an undergraduate degree in one of these areas and a grade point average of 3.5 or above may apply for direct admission to the Ph.D. program. In such cases direct admission will be predicated on the specific courses and strength of the undergraduate curriculum.

Applicants with an undergraduate major in mathematics, computer science, or the physical sciences, completed at an accredited institution, are also eligible for admission to this program, provided an evaluation concludes that the educational background includes sufficient background in analytically-oriented course work.

**The Global Executive Track** is a unique curriculum designed to accommodate the busy schedule of working executives. Applicants for this cohort-based program are expected to bring ten years of experience with five years or more of significant managerial experience and management span of control, global experience, a technical B.S. Degree, and a relevant M.S. Degree. Upon completion of the program, the candidate earns a Ph.D. in Industrial Engineering. Every year, a limited number of highly qualified, full-time working pro-

professionals are admitted for the Winter term (no admissions in Summer or Fall terms).

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate, including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses I E 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. A preliminary examination, a written and oral qualifying examination, and an oral dissertation defense are required. Students should consult page 37 for Graduate School regulations governing doctoral study.

## GRADUATE COURSES (I E)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5100 (BME 5010) Engineering Physiology. (CHE 5100) (ECE 5100) (M E 5100) Cr. 4**

Prereq: BME 5005 or consent of instructor. The basic principles of human physiology presented from the engineering viewpoint. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by simple mathematical models when feasible. (F,W)

### **5170 (BME 5570) Design of Human Rehabilitation Systems. (ECE 5170) (M E 5170) Cr. 4**

Prereq: senior standing. Design, fabrication and testing of customized hardware to aid handicapped patients. (F)

### **5780 (B E 5780) Products Liability Introduction for Engineers. (M E 5780) Cr. 1**

Prereq: senior or graduate standing. 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. (Y)

### **5995 Special Topics in Industrial Engineering. Cr. 1-4**

Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes. (I)

### **6000 Digital Automation. Cr. 4**

Prereq: graduate standing in engineering or consent of instructor. Fundamentals of digital control and logic; integration and automation solution technologies (barcode systems, vision systems, etc.); data acquisition. (S)

### **6005 Automotive Engineering Statistics. Cr. 3**

Prereq: graduate standing. 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. (W)

### **6180 (BME 6480) Biomedical Instrumentation. (ECE 6180) (M E 6180) Cr. 4**

Prereq: ECE 3300, BME 5010 or BMS 6550 (or former BMS 5550), and BME 5020. Engineering principles of physiological measurements. Signal conditioning equipment, amplifiers, recorders and transducers. Recent advances. (I)

### **6210 Applied Engineering Statistics. Cr. 4**

Prereq: B E 2100 or placement exam. No credit after I E 4250. Analysis of variability in engineering decision making; data analysis, probabilistic models, hypothesis testing, regression and analysis of variance. (F,W)

### **6220 Value Engineering. Cr. 4**

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. (S)

### **6240 Quality Management Systems. Cr. 4**

Prereq: B E 2100 or placement exam. 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 cause analysis. (W)

### **6250 Maintenance Engineering. Cr. 2**

Prereq: I E 6210. Proven aspects of maintenance and asset management. Principles of measurement and analysis. Case studies and projects are emphasized. Topics include: maintenance strategy, organization, methodologies, information systems, training programs. (W)

### **6260 Quality Assurance and Control. Cr. 2**

Prereq: B E 2100 or placement exam. Introduction to product assurance in engineering design and manufacturing. Topics include: SQC, acceptance sampling, process capability, control charts, variables data. (W)

### **6270 Engineering Experimental Design. Cr. 4**

Prereq: I E 6210. 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. (F)

### **6310 Lean Operations and Manufacturing. Cr. 2**

Fundamental theories and concepts in lean manufacturing, sixsigma, mistake proofing, problem solving, process management. Students develop competency in identifying causes and sources of waste in manufacturing, industrial, and business operations. (F,W)

### **6380 Engineering Logistics. Cr. 2-4**

Principles of material handling systems. Material handling systems analysis and design. Interfacing material handling systems. Principles of robotics. Robotic applications in manufacturing. (Y)

### **6405 (I E 6405) Integrated Product Development. (EVE 5600) (AET 5600) Cr. 4**

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. (F)

### **6415 Computer-Aided Design. Cr. 2**

Product and computer-aided design; design for X and CAD software tools; development of product models using Pro-Engineer software. (F)

### **6420 Computer Aided Manufacturing and Lab. Cr. 4**

Prereq: I E 6415. CAM and process planning. Principles of manufacturing planning and control. Design and integration of ASRS, AGVS, robotic systems in manufacturing. (W)

### **6425 Product Lifecycle Management and Sustainable Design. Cr. 4**

Prereq: enrollment in graduate engineering program or consent of instructor. Introduction to modern principles, practices and applications of PLM and sustainable design. (W)



**6430 Computer Simulation Methods. Cr. 2**

Coreq: I E 6310. 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. (F,W)

**6441 Advanced Facilities Design and Logistics. Cr. 2**

Prereq: I E 6442. Qualitative approaches for making facility location, layout, vehicle routings, and inventory management decisions. Applicability of various algorithms to real world applications; case studies. (W)

**6442 Facilities Design and Materials Flow. Cr. 2**

Plant location theory, analysis of models of plant location. Models for determining plant size and time phasing. Design of manufacturing warehouse and material handling facilities. Use of analytical and computer-aided methods in the facilities design process. (F)

**6450 (M E 6450) Advanced Manufacturing Processes and Methods. Cr. 4**

Review of novel manufacturing processes, methods and systems; emphasis on optimum design for manufacturability, technical, economic, and industrial limitations. Elements of computer-aided manufacturing, and numerical methods application. (W)

**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. (Y)

**6490 (I E 6490) Introduction to Systems Engineering in Design. (SYE 6840) Cr. 2**

Open only to engineering majors. Introduction to the engineering and analysis of systems with process focus. (F)

**6510 Information Systems for the Manufacturing Enterprise. Cr. 2**

Methods for information flow modeling. Information needs of global manufacturer: design, testing, manufacture, and delivery. Partnership relation to suppliers via information. (F)

**6520 Negotiating in an I E Environment. Cr. 2**

Open only to graduate students. 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. (B:S)

**6560 Deterministic Optimization. Cr. 4**

Introduction to philosophy of operations research. Formulation of linear program models and their solutions. Duality and sensitivity analysis. The transportation model. Introduction to probabilistic modeling and applications of queuing models. Network models decision theory. (F)

**6610 Introduction to Six Sigma. Cr. 4**

For Fall and Winter terms, open to non-I E majors only (I E majors should elect I E 7610); for Spring/Summer terms, no restrictions apply. For the working engineer who requires exposure to basic concepts of 6-Sigma and its work applications. (W,S)

**6840 (MGT 6840) Project Management. (SYE 6840) Cr. 1-4**

Principles of successful project management including: time and cost management, risk analysis, human resource management. Consideration of both operational and conceptual issues. Introduction to project management tools. (W,S)

**6850 Manufacturing Strategies. Cr. 2**

Prereq: graduate standing in engineering. Strategic approach to the management of manufacturing including: relationship to corporate strategy, operationalizing manufacturing concepts, impact of new technology and manufacturing concepts, impact of new technology

and manufacturing as a competitive resource; case-studies approach. (Y)

**6991 Industrial Internship. Cr. 1-3**

Prereq: prior consent of department and supervisor in semester prior to internship assignment. Offered for S and U grades only. (F,W)

**7100 (BME 7100) Mathematical Modeling in Impact Biomechanics. (ECE 7100) (M E 7100) Cr. 3-4**

Prereq: I E 5100 or BMS 6550 or former BMS 5550; M E 3400; consent of instructor. Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. (W)

**7125 Human Factors Engineering. Cr. 4**

Prereq: B E 2100 or equiv.; graduate standing or consent of instructor. 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. (W)

**7160 (BME 7160) Impact Biomechanics. (ECE 7160) (M E 7160) Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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. Material Fee As Indicated In The Schedule of Classes (I)

**7210 Robust Design. Cr. 4**

Prereq: I E 6210. Fundamental principles including role of variability, types of noise, and variability reduction strategies to increase product quality. Techniques such as: DOE, RSM, Taguchi, reliability estimation, and design for reliability. (F)

**7250 Quality Engineering. Cr. 4**

Prereq: I E 6210. Quality loss function; introduction to on-line and off-line quality control; product and process design optimization using Taguchi methods; fractional factorial designs using orthogonal arrays and linear graphs; robust design and signal to noise ratio. (W)

**7270 Reliability Estimation. Cr. 4**

Prereq: B E 2100 or placement exam. Reliability measures, failure distributions, reliability block diagrams, reliability estimation using exponential and Weibull distributions, sequential life testing and Bayesian reliability. (F)

**7280 Systems Design. Cr. 2**

Methodology for approaching large-scale systems with many interacting components. Development of ability to decompose large system design problems into manageable stages. (Y)

**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. (Y)

**7300 Topics in Systems Thinking and Technology-Based Strategies for Problem Solving. Cr. 2**

Role of various technologies in engineering management. Topics may include: artificial intelligence and expert systems; world wide web; ergonomics; TRIZ technical problem-solving technique; value engineering; mechatronics; systems thinking. (Y)

**7315 Production Systems. Cr. 4**

Topics include: Fundamental theories and concepts in design and operation of production systems for manufacturing and service organizations, using concepts of inventory management, production planning, factory physics, production control and supply, chain management. (W)

**7325 Supply Chain Management. Cr. 4**

Fundamental theories and concepts in design and management of supply chains. Theories and applications of mathematical models in SCM. Logistics, advanced strategic and tactical planning, extended enterprise integration. (F)

**7400 Capstone: Integrated Product Engineering. Cr. 4**

Prereq: I E 6400, I E 6410, I E 6420. 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. (W)

**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. (Y)

**7420 Flexible Manufacturing Systems. Cr. 4**

Analysis and design of flexible manufacturing systems. FMS control and communication architecture, FMS material handling architecture. Flexibility analysis. Computer-integrated manufacturing (CIM). (F)

**7450 Medical Informatics and Data Mining. Cr. 2**

Implementation and use of data mining systems and methods for analysis of large amounts of data, for graduate industrial engineering majors and students from other disciplines. Algorithms, methods, implementations and applications of mining sequential and structured data, stream data, text data, Web data, spatiotemporal data, biomedical data, and other forms of complex data. (Y)

**7500 Advanced Topics in Operations Research. Cr. 4**

Prereq: Ph.D. standing. Three modules: (1) nonlinear programming topics include: convex analysis, optimality conditions, computational methods for unconstrained and constrained problems; (2) dynamic programming: search for optimal policies or sequences of decisions for problems in which many decision steps are taken before reaching an eventual goal; (3) network optimization: linear programming problems with applications in transportation, logistics, manufacturing, computer science; project management, and finance; network flow models, network design models, theory and solution algorithms. (I)

**7515 Factory Information Systems. Cr. 2**

Integration of design, manufacturing, test, and factory management systems. Computer-based manufacturing systems to improve the quality, speed, and cost effectiveness to create and produce new products. (I)

**7520 Optimization Methods. Cr. 4**

Prereq: basic knowledge of Linear programming and graduate standing. 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. (F)

**7570 Deterministic System Models and Optimization. Cr. 2**

Prereq: graduate standing. Methods for quantifying impact of specific constraints on overall performance of a system; use of journal articles on corporate use of these models. (Y)

**7610 Fundamentals of Six Sigma. Cr. 4**

Prereq: I E 6210. No credit after I E 6610. For the industrial engineer with a solid foundation in probability and statistics. Advanced knowledge to develop students into 6-Sigma consultants. (W)

**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. (B)

**7720 Engineering Risk and Decision Analysis. (SYE 7720) Cr. 3-4**

Structure, modeling, and analysis of technical management decisions with emphasis on multiple objectives and tradeoffs, and significant uncertainty. Explores barriers to rational decision making. (W in even years)

**7830 Management of Technology Change. Cr. 2**

Prereq: graduate standing. In-depth treatment of development and implementation of advanced technology; special attention to interaction among technology work process, organization, human resources, and culture. (F)

**7860 Intelligent Engineering Systems. Cr. 4**

Prereq: ECE 5120 or CSE 7850 or consent of instructor; strong familiarity with a computer language. Computation intelligence methods used to solve complex engineering problems. Project-centric approach with the goal of developing several engineering intelligent systems. (F)

**7870 Quality Leadership and Process Improvements. Cr. 2**

Prereq: graduate standing. Quality philosophies used as basis for quality process improvements; discussions and journal articles used to examine re-engineering, supply chain management, and the human side of quality; team project included. (Y)

**7880 Computer Supported Collaborative Engineering. Cr. 2**

Prereq: graduate standing and I E 6420. Review of collaborative engineering tools, techniques and systems related to design and development of engineering products for both co-located and distributed team.. (W)

**7990 Directed Study. Cr. 1-6**

Prereq: written consent of advisor, chairperson and graduate officer for master's students; written consent of advisor, chairperson and Dean of Graduate Studies for Ph.D. students. 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. (T)

**7995 (I E 7995) Graduate Special Topics. (SYE 7995) Cr. 1-4**

Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes. (I)

**7996 Research. Cr. 1-6**

Prereq: consent of advisor and chairperson; outline approved by instructor prior to registration for this course. Advanced design, investigation or experimental work. (T)

**7998 (I E 7998) Engineering Management and Leadership. (SYE 7998) Cr. 2**

Organizational leadership, team building, principles of management and communication, customer analysis, measurement. Assessment and metrics, supplier relationship, management/supplier assessment, customer relationship management. (F)

**7999 Engineering Management Leadership Project. Cr. 1-6 (6 req.)**

Prereq: consent of advisor. Integration of knowledge from individual courses in M.S. engineering management curriculum. Team-oriented focus on major industrial problem. (T)

**8200 Advanced Topics in Reliability and Quality Control. Cr. 4**

Prereq: I E 7260 or 7270. An in-depth study of current literature in reliability and quality control research. (F)

**8325 Advanced Supply Chain Management. Cr. 4**

Prereq: doctoral student standing. Analytical methods and algorithms used in supply chain management; emphasis on operations research. Writing of manuscript for SCM conference; skills in technical presentation and discussion forums. (W)

**8930 Global Perspectives on Engineering Manufacturing and Management. Cr. 2**

Open only to Global Executive Track Ph.D. candidates. 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. (W)

**8931 Global Engineering and Manufacturing Management: India. Cr. 1**

Open only to Global Executive Track Ph.D. students. Country course designed to provide broad coverage about India to an industrial engineering cohort with considerable business experience. (W)

**8932 Global Engineering and Manufacturing Management: China. Cr. 1**

Open only to Global Executive Track Ph.D. students. Country course designed to provide broad coverage about China to an industrial engineering cohort with considerable business experience. (W)

**8933 Global Engineering and Manufacturing Management: Western Europe. Cr. 1**

Open only to Global Executive Track Ph.D. students. Country course designed to provide broad coverage about Western Europe to an industrial engineering cohort with considerable business experience. (F)

**8934 Global Engineering and Manufacturing Management: South Asia. Cr. 1**

Open only to Global Executive Track Ph.D. students. Country course designed to provide broad coverage about South Asia to an industrial engineering cohort with considerable business experience. (F)

**8935 Global Engineering and Manufacturing Management: Eastern Europe. Cr. 1**

Open only to Global Executive Track Ph.D. students. Country course designed to provide broad coverage about Eastern Europe to an industrial engineering cohort with considerable business experience. (F)

**8936 Global Engineering and Manufacturing Management: South America and Mexico. Cr. 1**

Open only to Global Executive Track Ph.D. students. Country course designed to provide broad coverage about South America and Mexico to an industrial engineering cohort with considerable business experience. (F)

**8941 From Idea through Launch: Products and Services I. Cr. 2-3**

Prereq: Global Executive track Ph.D. student. Course comprised of twelve modules; the processes and progression from product or service innovation to development and launch. (W)

**8942 From Idea through Launch: Products and Services II. Cr. 2-4**

Prereq: Global Executive track Ph.D. student. Course comprised of twelve modules; the processes and progression from product or service innovation to development and launch. (F)

**8943 From Launch through Sustainability: Products and Services I. Cr. 2-4**

Prereq: Global Executive track Ph.D. student. From when the finished product hits the market to all the steps necessary to make the product sustainable. (W)

**8944 From Launch through Sustainability: Products and Services II. Cr. 2-4**

Prereq: Global Executive track Ph.D. student. From when the finished product hits the market to all the steps necessary to make the product sustainable. (F)

**8950 Advanced Engineering Statistics. Cr. 3**

Open only to Global Executive Track Ph.D. students. Prereq: successful completion of online refresher course. Skill development in model building, ANOVA, multiple regression, multivariate statistics, forecasting, and time series modeling. (F)

**8951 Research Design. Cr. 3**

Open only to Global Executive Track Ph.D. applicants. 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. (W)

**8952 Research Methods. Cr. 3**

Open only to Global Executive Track Ph.D. applicants. Focus on qualitative 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. (F)

**8960 Literature Review. Cr. 1-2**

Open only to Global Executive Track Ph.D. candidates. 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. (S)

**8970 Leadership of the Global Technical Organization. Cr. 3**

Open only to Global Executive Track Ph.D. students. Understanding the elements of leadership and the dynamics of leadership behavior; development of the skills necessary for leading in a global technical organization. (W)

**8990 Graduate Seminar: Globalization of Engineering and Manufacturing. Cr. 1**

Prereq: Ph.D. standing. Offered for S and U grades only. Grad. students must earn total of 4 credits in I E 8990-8995. 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. (I:F)

**8991 Graduate Seminar: Automotive Technical Management. Cr. 1**

Prereq: Ph.D. standing. Offered for S and U grades only. Grad. students must earn total of 4 credits in I E 8990-8995. 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. (I)

**8992 Graduate Seminar: Product Development. Cr. 1**

Prereq: Ph.D. standing. Offered for S and U grades only. Grad. students must earn total of 4 credits in I E 8990-8995. 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. (I)

**8993 Graduate Seminar: Supply Chain Management. Cr. 1**

Prereq: Ph.D. standing. Offered for S and U grades only. Grad. students must earn total of 4 credits in I E 8990-8995. 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. (I:F)

**8994 Graduate Seminar: Quality. Cr. 1**

Prereq: Ph.D. standing. Offered for S and U grades only. Grad. students must earn total of 4 credits in I E 8990-8995. 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. (I)

**8995 Graduate Seminar. Cr. 1 (Max. 4)**

Prereq: Ph.D. standing. Offered for S and U grades only. Grad. students must earn total of 4 credits in I E 8990-8995. Research and development methods. Leading-edge research topics. Platform for student to present preliminary research findings and obtain feedback. (F,W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of graduate advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: I E 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following I E 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: I E 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following I E 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: I E 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following I E 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in I E 9991- I E 9994. Offered for S and U grades only.

## GRADUATE COURSES (SYE)

**5470 (M E 5470) Creative Problem Solving in Design and Manufacturing. Cr. 4**

Coreq: M E 4250 or equiv. 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. (Y)

**6490 (I E 6490) Introduction to Systems Engineering in Design. Cr. 2**

Open only to engineering majors. Introduction to the engineering and analysis of systems with process focus. (Y)

**6840 (MGT 6840) Project Management. (I E 6840) Cr. 1-4**

Principles of successful project management including: time and cost management, risk analysis, human resource management. Consideration of both operational and conceptual issues. Introduction to project management tools. (Y)

**7720 (I E 7720) Engineering Risk and Decision Analysis. Cr. 4**

Structure and analysis technical management decisions with emphasis on multiple objectives and tradeoffs, and significant uncertainty. (Y)

**7995 (I E 7995) Graduate Special Topics. Cr. 1-4**

Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes. (Y)

**7998 (I E 7998) Engineering Management and Leadership. Cr. 2**

Organizational leadership, team building, principles of management and communication, customer analysis, measurement. Assessment and metrics, supplier relationship, management/supplier assessment, customer relationship management. (Y)



# Mechanical Engineering

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## Professors

V.L. Berdichevsky, W. Bryzik, N. Chalhoub, C. N. DeSilva (Emeritus), N. A. Henein, R. A. Ibrahim, K. A. Kline (Emeritus), M.C. Lai, G.M. Newaz, R. A. Piccirelli (Emeritus), H. Shapiro, T. Singh, C.A. Tan, D. Taraza, S.F. Wu

## Associate Professors

E.O. Ayorinde, J.C. Ku, X. Wu

## Assistant Professor

M. Jansons

## Adjunct Professors

Bashar Abdulnoour, T. Khalil, A. Kovacs, Naveen Mittal, Arvind Padgankar, Nripen Saha, Chunlie Xie

## Graduate Degrees

*MASTER OF SCIENCE in Mechanical Engineering*

*DOCTOR OF PHILOSOPHY with a major in Mechanical Engineering*

The opportunities and challenges in the field of mechanical engineering are diverse and virtually unlimited. 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 and reliability of a device that will be duplicated a million-fold or in the control optimization of a single complex system of unique design. The mechanical engineering curriculum is designed to prepare graduate students in many applied fields, including such important areas as biomechanics, energy conversion, combustion engines, emissions controls, machine tool design, manufacturing, computer graphics, structural analysis, automatic controls, vehicle dynamics and design, continuum mechanics, fluid dynamics, environmental design, mechanisms, acoustics and noise control, laser diagnostics, and composite materials. Faculty members in the Department are currently engaged in state-of-the-art research in all of these areas. Specialized areas of research support for graduate students include: manufacturing processes, composite material behavior, combustion, acoustics and noise control, vibrations, laser diagnostics, biomechanics, control of mechanical systems, electronic packaging, sheet metal stamping, and engine research.

Part-time study (with most courses offered in the evening) and cooperative programs allow professionals working in local industry to pursue graduate degrees while employed.

## Master of Science in Mechanical Engineering

Program specializations at the master's degree level may be undertaken in many areas, including acoustics, vibrations, machine tool design, biomechanics, combustion engines, controls, composite

materials, and fluid and solid mechanics, among others. These program specializations are available to both part-time and full-time students, in either research or non-research degree programs.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

**DEGREE REQUIREMENTS:** The master's degree in mechanical engineering is offered under the following options:

**Plan A:** A minimum of thirty-two credits in course work including an eight-credit thesis.

**Plan C:** A minimum of thirty-two credits in course work.

Credit distribution includes: at least twenty-four credits in mechanical engineering courses, including a minimum of two courses on the 7000-level for Plan A students and three 7000-level courses for Plan C students. Directed study and directed research courses (M E 7990 and 7996) *cannot* be counted toward the satisfaction of the 7000-level course requirement. A maximum of four credits in directed study or directed research (M E 5990, 7990 and 7996) can be applied towards the degree. Every master's degree student (both Plan A and Plan C) must select at least four courses from one of the following areas: vibrations and acoustics, controls and dynamics, biomechanical engineering, solid mechanics, manufacturing/design, and thermal/fluid science. At least one of the four courses must be a core course in that area. A list of approved courses may be found in the Handbook for Graduate Students in Mechanical Engineering, available from the Department and listed on the Department home page. In addition, a minimum of four credits in engineering analysis or math intensive course is required, to be taken from the following suggested list: M E 5000, 5010, 7260, 7300, 7610; MAT 5070, 5220, 5230, 5410. Thesis credit requirements are met by satisfactory completion of M E 8999. All courses in the master's Plan of Work must be completed with a grade of 'B-minus' or better. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

## Doctor of Philosophy with a Major in Mechanical Engineering

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. It is required that applicants submit Graduate Record Examination (GRE) scores. In addition, applicants must have a graduate grade point average of 3.5 or above and must have completed an undergraduate major or substantial specialized work in his/her proposed doctoral major field. Students with an undergraduate grade point average of 3.5 or above may apply for direct admission to the Ph.D. program; students with less than a 3.5 undergraduate g.p.a. must complete a master's degree program in mechanical engineering prior to consideration for admission to a Ph.D. program.

**DEGREE REQUIREMENTS:** A minimum of ninety semester credits beyond the baccalaureate degree must be earned in the Ph.D. program. The thirty credit dissertation registration requirement is fulfilled by registering for the courses M E 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. In addition, at least half of all course work credit exclusive of dissertation credits must be earned in the Department of Mechanical Engineering. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 154, respectively.

### REQUIREMENTS FOR ALL PH.D. STUDENTS:

**1. Preliminary Qualifying Examination:** This is a three-part written examination administered once per year. All Ph.D. applicants must pass this examination within three semesters after admission to the Ph.D. program. Students must choose to be examined in any three of

the following fields: (i) Controls, (ii) Dynamics, (iii) Vibrations, (iv) Fluid Mechanics, (v) Solid Mechanics, (vi) Thermodynamics, and (vii) Heat and Mass Transfer. Each student has two chances to pass this examination. Students must register their choice of fields with the Director of Graduate Studies at least thirty days prior to the examination date.

**2. Final Qualifying Examination:** This examination consists of written and oral parts covering the student's major and minor areas and other related fields. The student is expected to take this examination before registering for M E 9991.

**3. An approved Plan of Work** should be filed with the Office for Graduate Studies. See page 38 for further information.

**4. A Doctoral Dissertation Outline**, approved by *all* members of the Doctoral Committee and the Departmental Graduate Program Committee should be filed by the student immediately after completing the oral part of the Final Qualifying Examination.

## GRADUATE COURSES (M E)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5000 Engineering Analysis I. Cr. 4**

Prereq: MAT 2150 and senior standing. 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. Material Fee As Indicated In The Schedule of Classes (F)

### **5010 Engineering Analysis II. Cr. 4**

Prereq: MAT 2150 and senior standing. Basic operations of complex numbers. Analytic functions and Cauchy-Riemann conditions. Cauchy and Goursat theorem. Residue theorem. Conformal mapping and its applications. Schwarz-Christoffel transformation. Basic properties of the Laplace transformation. Convolution integral. Applications to mechanical and electrical engineering problems. Material Fee As Indicated In The Schedule of Classes (W)

### **5040 Finite Element Methods I. Cr. 4**

Prereq: MAT 2150 or MAT 2350. Introduction to finite element methods. Review of equations from solid mechanics, variational methods, potential energy principles. Displacement-based formulation of bar, beam, plane strain and plane stress elements. Isoparametric element formulation. Assembly of elements and solution of global stiffness equations. Detailed examples of problems from structural analysis and solid mechanics. Computer laboratory sessions using the MSC/Nastran and Altair Hypermesh computer codes. (F,W)

### **5100 (BME 5010) Engineering Physiology. (CHE 5100) (ECE 5100) (I E 5100) Cr. 4**

Prereq: BME 5005 or consent of instructor. The basic principles of human physiology presented from the engineering viewpoint. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by simple mathematical models when feasible. (F,W)

### **5110 (EVE 5130) Fundamental Fuel Cell Systems. (M E 5110) (AET 5110) (CHE 5110) Cr. 4**

Prereq: senior standing in science or engineering discipline. 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. (F)

### **5115 (EVE 5110) Fundamentals of Electric-drive Vehicle Engineering. (M E 5115) Cr. 4**

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. General background of hybrid and electric vehicles related technologies; energy analysis; and unified modeling approach. Hybrid powertrain architectures, transmission, and on-board energy storage. Overview of electric machines, fuel cells, and future applications. (F)

### **5120 (M E 5120) Fundamentals of Alternative Energy Technology. (AET 5120) Cr. 4**

Prereq: senior standing in science or engineering discipline. Input-output analysis, thermodynamic efficiency and availability, energy balances, economics and environmental considerations. Fuel cell examined from energy efficiency perspective. Photovoltaics, wind power, biomass conversion technologies. (W)

### **5160 (BME 5210) Musculoskeletal Biomechanics. Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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. (W)

### **5170 (BME 5570) Design of Human Rehabilitation Systems. (ECE 5170) (I E 5170) Cr. 4**

Prereq: senior standing. Design, fabrication and testing of customized hardware to aid handicapped patients. (F)

### **5180 (BME 5370) Introduction to Biomaterials. (MSE 5180) Cr. 4**

Prereq: B E 1300, BME 5010 or BMS 6550 (or former BMS 5550). 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. (Y)

### **5210 Convective and Radiative Heat Transfer. Cr. 4**

Prereq: M E 4210. Radiative processes and properties of solids. Radiative heat transfer among surfaces in an enclosure. Introduction to gas radiation. Derivation of the energy equation for laminar flows. Application of semi-empirical correlation for forced and free convection of laminar and turbulent flows. Some analytical methods for convective heat transfer. Heat exchange analysis. (F)

### **5215 (EVE 5120) Fundamentals of Battery Systems for Electric and Hybrid Vehicles. (AET 5310) Cr. 4**

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. (W)

### **5300 Intermediate Fluid Mechanics. Cr. 4**

Prereq: M E 3300. Introduction to continua. Integral and differential equations of motion. Ideal flow theory. Flow over blunt bodies. Introduction to boundary layer. Sound waves. Compressible flows. (F)

### **5315 (EVE 5310) Electric-drive Vehicle Modeling and Simulation. (M E 5315) Cr. 4**

Prereq: Open only to Engineering graduate students and undergraduates with senior standing, others by consent of instructor. Overall energy conversion, storage, utilization and optimization of complete vehicle systems. General models of IC engine, electric machine, energy storage, and power flow processes in hybrid and electric vehicles by Matlab/Simulink, dSPACE, GT-Drive, AVL/Cruise. (W)

**5330 (M E 5330) Advanced Thermal Fluid System Design. (AET 5250) (EVE 5700) Cr. 4**

Prereq: M E 4210, ENG 3060, and senior standing in AGRAD program. Design of thermal fluid systems to meet system performance requirements, system simulation, design optimization and economics limitations. (F,W)

**5360 Introduction to Computational Biofluidics and Heat Transfer. Cr. 4**

Prereq: M E 3300, M E 4210. Basic numerical techniques for biofluidics and its applications. Use of techniques to improve surgical procedures; analysis of biofluidics applied to understanding disease. (F)

**5400 Dynamics II. Cr. 4**

Prereq: M E 3400. Kinematics and rigid bodies in space. Classical particle solutions: central force, motion on a surface of revolution, spherical pendulum. Energy and momentum integrals. Equations of motion in general rotating coordinate frames. Euler angles, angular momentum and kinetic energy of rigid bodies. Fixed point motion, steady solutions. Applications to spatial motions of rigid bodies. Hamilton's Principle and Lagrange's equations of motion. Material Fee As Indicated In The Schedule of Classes (F)

**5410 Vibrations II. Cr. 4**

Prereq: M E 4410. Multidegree-of-freedom systems. Eigenvectors and eigenvalues and orthogonality of normal modes. Mode-summation method. Solution to forced vibrations by Laplace transforms, numerical methods and Continuous Systems Modeling Program (CSMP). Rayleigh's principle and Dunkerley formula for approximate frequencies. Torsional geared and branched systems. Lagrange's equations. Vibration of continuous systems: longitudinal and transverse vibrations of beams; torsional vibrations, vibrating string and membranes. (F)

**5425 Analysis of Vibration Movements and Instrumentation. Cr. 4**

Prereq: M E 4410. 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. Material Fee As Indicated In The Schedule of Classes (B)

**5440 Industrial Noise Control. Cr. 4**

Prereq: senior standing or consent of instructor. Nature and origin of noise in mechanical systems and design for their control. Measurement of sound pressure levels, sound power levels, sound intensity levels, reverberation time, absorption coefficients of materials. (B:W)

**5453 Automotive Manufacturing System and Processes. Cr. 4**

Prereq: M E 3450 or M E 4250 or equiv. Understanding auto body development from sheet metal to assembly; process design principles and methodology. (Y)

**5460 Fundamentals in Acoustics and Noise Control. Cr. 4**

Prereq: senior or graduate standing. Videotapes and multimedia materials on sound generation, propagation and interaction with solid boundaries. Fundamental theories of sound radiation and control; solving practical engineering noise and vibration problems. (B:F)

**5470 (M E 5470) Creative Problem Solving in Design and Manufacturing. (SYE 5470) Cr. 4**

Coreq: M E 4250 or equiv. 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. (W)

**5490 Computational Multibody Dynamics. Cr. 4**

Prereq: M E 3400 and M E 4150 (or former M E 3480) or equiv. Modeling and time simulation of mechanical and dynamic systems using computational software. Applied kinematics and kinetics; constraints,

elasticity, ODE and DAE solvers, eigenvalue analysis, control, reliability, system design, optimization, GD&T, vehicle dynamics. (F,W)

**5500 (M E 4500) (WI) Advanced Engineering Design. (M E 5500) Cr. 4**

Prereq: B E 2550, M E 4250, ENG 3060. Open only to AGRAD students. Team work on semester-long project, design concepts to be developed using various design theories, students perform patent literature search, design, fabricate and test prototypes. Final written report and public presentation required. Satisfies Writing Intensive course requirement. Material Fee As Indicated In The Schedule of Classes (F,W)

**5580 Computer-Aided Mechanical Design. Cr. 4**

Prereq: M E 4150 or former M E 3480 or graduate standing in mechanical engineering. Aspects of constraint-based solid modeling and parametric modeling using software such as Unigraphics, Solid Edge, I-DEAS, Pro-E. Building intelligent solid models, application to data management and sheet metal design. Introduction to computer-aided simulation and manufacturing. (S)

**5600 Advanced Mechanics of Materials. Cr. 4**

Statically indeterminate problems. Force method. Displacement methods. The three-moment equation. Euler formulas for columns. Column formulas for concentric and eccentric loadings. Energy methods and applications. Unsymmetrical bending of beams. Shear center. Bending of curved bars. Thick-walled cylinders. Torsion of non-cylinders. Rotating discs. Torsion of non-circular shafts. Membrane analogy. (W)

**5610 Experimental Mechanics of Materials. Cr. 4**

Experimental characterization of mechanical behavior. Instrumentation and measurement of load, strain, deflection, etc., characterization of creep, fracture toughness, dynamic-mechanical response (damping and vibration). Statistical analysis of data. (W)

**5620 Fracture Mechanics in Engineering Design. Cr. 4**

Linear and nonlinear fracture mechanics principles and their applications to structural design. Stress-intensity factors, J-integral, CTOD concepts to develop fracture control plans. (Y)

**5700 Fundamentals of Mechanics. Cr. 4**

Prereq: MAT 5070. Classical mechanics (Lagrangian and Hamiltonian applications); thermodynamics (derivation of thermodynamic laws from mechanics); continuum kinematics and basics of tensor analysis; continuum mechanics (basic laws; thermodynamics of continuum media; classical continuum models). Material Fee As Indicated In The Schedule of Classes (F)

**5720 Mechanics of Composite Materials. Cr. 4**

Prereq: senior standing. Analytical modeling of micromechanical and macromechanical behavior of composite materials. Stiffness, strength, hydrothermal effects, laminate analysis, viscoelastic and dynamic behavior. Experimental characterization of mechanical behavior. (F)

**5730 Tribology and Lubrication Technology. Cr. 4**

Friction, wear, and lubrication fundamentals: wear mechanisms, application of coatings, surface engineering fundamentals. (Y)

**5780 (B E 5780) Products Liability Introduction for Engineers. (I E 5780) Cr. 1**

Prereq: senior or graduate standing. 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. (Y)

**5800 Combustion Engines. Cr. 4**

Prereq: M E 2200 or former M E 2210 or equiv. Thermodynamics and cycle analysis of spark ignition, compression ignition, and gas turbine engines. Combustion processes in actual systems, performance

characteristics, combustion abnormalities. Analysis of intake, fuel and exhaust systems. (F)

**5810 Combustion and Emissions. Cr. 4**

Prereq: M E 5800; or consent of instructor. 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, particulates. Effect of design parameters and engine operating variables on emission formation. Emission controls and instrumentation. (W)

**5820 Thermal Environmental Engineering. Cr. 4**

Prereq: M E 4210. Design and analysis of heating, ventilating and air-conditioning systems. Moist air properties calculations, heat transfer and transmission coefficients, heating load, cooling load, heating equipment and cooling equipment, duct design, fans, air distribution, systems design and analysis, refrigeration principles. (S)

**5850 (C E 5410) The Hydrogen Economy and Hydrogen Infrastructure Needs. (M E 5850) (AET 5410) Cr. 4**

Prereq: senior standing in science or engineering discipline. The post-fossil fuel energy paradigm, in context of the developing hydrogen infrastructure; analysis of government reports and scientific literature; discussion regarding the championed (and contested) vision of a global Hydrogen Economy. (F)

**5870 (C E 5250) Transportation Energy Choices. (AET 5250) Cr. 4**

Prereq: senior standing in science or engineering discipline. Technological innovations and barriers impacting energy production, storage, and conversion in transportation applications. Fuel life cycle case studies (bioethanol, syncrude, etc.). (F)

**5900 National Design Competition Projects. Cr. 1-4 (Max. 6)**

Prereq: written consent of director of undergraduate studies or graduate students' advisor. (T)

**5990 Directed Study. Cr. 1-4 (Max. 6)**

Prereq: senior or graduate standing; seniors: written consent of advisor and chairperson; graduates: written consent of advisor, chairperson, and Engineering Graduate Office for Master's students. Open only to seniors and graduate students. (T)

**5995 Special Topics in Mechanical Engineering I. Cr. 1-4 (Max. 8)**

Prereq: consent of chairperson. Maximum of eight credits in special topics may be elected in any one degree program. Topics to be announced in Schedule of Classes. (I)

**6180 (BME 6480) Biomedical Instrumentation. (ECE 6180) (I E 6180) Cr. 4**

Prereq: ECE 3300, BME 5010 or BMS 6550 (or former BMS 5550), and BME 5020. Engineering principles of physiological measurements. Signal conditioning equipment, amplifiers, recorders and transducers. Recent advances. (F)

**6450 (M E 6450) Advanced Manufacturing Processes and Methods. (I E 6450) Cr. 4**

Prereq: M E 3450, B E 2550, or consent of instructor. Review of novel manufacturing processes, methods and systems; emphasis on optimum design for manufacturability, technical, economic, and industrial limitations. Elements of computer-aided manufacturing, and numerical methods application. (W)

**6550 Modeling and Control of Dynamic Systems. Cr. 4**

Prereq: M E 4420 or former M E 5540. Modeling and analysis of physical systems comprised of interconnected mechanical, electrical, hydraulic and thermal devices; bond graphs; introduction to state-space equations and closed loop system dynamics. Material Fee As Indicated In The Schedule of Classes (W)

**6991 Internship in Industry. Cr. 1-4 (Max. 4)**

Offered for S and U grades only. Written report describing internship experience. (T)

**7020 Finite Element Methods II. Cr. 4**

Prereq: M E 5040. Continuation of M E 5040. Isoparametric elements, plate and shell elements. Dynamic analysis of structures. Hybrid variational techniques. Applications to solid mechanics, incompressible materials, heat transfer and fluid mechanics. Pre- and post-processing, use of computer graphics in analysis. (W)

**7100 (BME 7100) Mathematical Modeling in Impact Biomechanics. (ECE 7100) (I E 7100) Cr. 3-4**

Prereq: M E 3400, and BME 5010 or BMS 6550 (or former BMS 5550); consent of instructor. Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. (W)

**7160 (BME 7160) Impact Biomechanics. (ECE 7160) (I E 7160) Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550. 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. Material Fee As Indicated In The Schedule of Classes (I)

**7180 (BME 7300) Advanced Topics in Biomaterials and Tissue Mechanics. (MSE 7180) Cr. 4**

Prereq: BME 5210 or 5370. 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. (B)

**7195 (BME 7210) Tissue Biomechanics. Cr. 4**

Prereq: BME 5010 or BMS 6550 or former BMS 5550; BME 5020, BME 5210. Tissue-level mechanical properties. Analytical models of hard and soft tissue mechanics. Soft tissue viscoelasticity, quasilinear viscoelasticity and biphasic theory. Wolff's law and bone remodeling, bone fatigue and microfracture. Form and function relationships from microstructure to macrostructure. Application of theoretical models to experimental data sets. (B:F)

**7200 Advanced Thermodynamics and Combustion. Cr. 4**

Prereq: M E 4210 or consent of instructor. Postulational basis of thermodynamics; potentials and transformation theory; method of calculating properties from basic data. Introduction to statistical thermodynamics; calculation of properties of gases and plasmas; equilibrium mixture calculations. Advanced energy analysis of systems. (F)

**7260 Heat and Mass Transfer. Cr. 4**

Prereq: M E 4200. Formulation of heat and mass transfer problems; lumped, differential and integral formulations. Solution of problems using the method of separation of variables, partial solutions, variation of parameters, superposition and Laplace transformation. Applications in different thermal and combustion systems. (F)

**7290 Advanced Combustion and Emissions I. Cr. 4**

Prereq: M E 3200 and 4200 or consent of instructor. Flame propagation theories, structure or pre-mixed hydrocarbon flames, mathematical formulations for flame propagation and emission formation in homogenous mixtures in engines. Material Fee As Indicated In The Schedule of Classes (W)

**7300 Advanced Fluid Mechanics. Cr. 4**

Prereq: M E 5300 or consent of instructor. Tensor derivation of conservation laws, transport theorem. Thermodynamics of continuous media and constitutive equations. Kinematics of vorticity, dynamics of flows; perfect fluids, compressibility effects. (F)



**7310 Computational Fluid Mechanics and Heat Transfer. Cr. 4**

Prereq: M E 5300 or consent of instructor. Introduction to numerical techniques for the solution of inviscid and viscous compressible and incompressible flows and the use of existing algorithms and mathematics libraries. Fundamentals of Newtonian and non-Newtonian flows for biofluidics applications. (W)

**7320 (EVE 7320) Electric-drive Vehicle Thermal Management. (M E 7320) Cr. 4**

Prereq: EVE 5110 and EVE 5310; B.S. degree in an engineering or math-based science program. Numerical simulation of thermal management scenarios for electric drive battery to ensure optimum electrochemical performance of cell charge acceptance, power and energy capability, reliability, and cycle life. Integrated analysis with other drive components. (F)

**7400 Advanced Dynamics. Cr. 4**

Prereq: M E 5400. Modeling and development of governing equations of motion for discrete and continuous systems. Generalized coordinates. Principle of virtual work and Hamilton's theorems; Jacobi's integral and Routhian functions. Hamilton's canonical equations and Gibbs-Appell equations. Kinematics of deformable bodies and strains. Stress components and constitutive equations. Formulation of equations of motion for deformable bodies by Hamilton's Principle. Introduction to the stability of dynamic systems. Material Fee As Indicated In The Schedule of Classes (W)

**7410 Vibrations of Continuous Systems. Cr. 4**

Prereq: M E 5400, 5410, 5600. Various exact and approximate solution methods for analyzing the vibrations of continuous systems. (B)

**7420 Random Vibrations. Cr. 4**

Prereq: M E 5410. Mathematical description of stochastic processes. Response analysis of mechanical systems. Frequency response, spectral density, filters. (I)

**7440 Signal Processing Technologies and Their Applications. Cr. 4**

Prereq: graduate standing. Signal processing technologies used to analyze a variety of transient signals that contain discontinuities and sharp spikes, with applications to such fields as intelligence gathering, FBI fingerprint comparison, denoising noisy data, etc. Hands-on experience with software such as LabVIEW to set up experiments and analyze data. (B:F)

**7451 Advanced Manufacturing II: Material Forming. Cr. 4**

Prereq: M E 3450, 5700, or consent of instructor. Fundamental plasticity and mechanics of forming, various forming processes; classical theory and recent progress in the field; focus on autobody manufacturing. (B:F)

**7452 Laser Technology in Engineering. Cr. 4**

Prereq: graduate standing in engineering. Principles of lasers; various types, applications in material processing such as cutting, joining, surface treatment; laser system operations, maintenance and safety practice. (F)

**7460 Advanced Acoustics and Noise Control. Cr. 4**

Prereq: M E 5000 or equiv., M E 5460, or consent of instructor. State of the art technologies in acoustic radiation, numerical algorithms, and software packages used in manufacturing industries, and their application to noise, vibration and harshness (NVH) related problems. (B:W)

**7480 Nonlinear Vibration. Cr. 4**

Prereq: M E 5410, 7400. Classification of nonlinearities in mechanical systems and their qualitative effect on their dynamic response. Phase portrait, concept of limit cycle, Duffing's and Van der Pol oscillators, and parametric vibration. Harmonic balance, averaging methods, and multiple scales methods. Nonlinear modal interaction and chaotic dynamics. (B:W)

**7550 Control of Dynamic Systems. Cr. 4**

Prereq: M E 6550 or consent of instructor. Analysis and control of linear dynamic systems using state-space equations; stability, controllability, observability, modal control. Analysis and synthesis of nonlinear systems; describing functions, limit cycles, stability, introduction to adaptive control. Material Fee As Indicated In The Schedule of Classes (W)

**7590 (M E 7590) Nonlinear Control Systems. (ECE 7420) Cr. 4**

Prereq: M E 5550 or ECE 5470. Review of nonlinear control problems in industries, analysis of nonlinear systems using phase plane, Lyapunov describing function methods, design of nonlinear controllers, applications to the control of robots, aircrafts and automobiles. (W)

**7610 Theory of Elasticity. Cr. 4**

Prereq: M E 5700 or consent of instructor. Boundary value problems of linear elasticity. Variational principles in linear elasticity. Theory of beams, plates and shells. Homogenized description of composite materials. Material Fee As Indicated In The Schedule of Classes (F)

**7680 Manufacturing Processing Mechanics. Cr. 4**

Prereq: M E 5040. Electric packaging, composite curing, metal forming; modeling and verification by laser based techniques. (Y)

**7720 Advanced Mechanics of Composite Materials. Cr. 4**

Prereq: M E 5720. Review of tensor notation with application to stress strain and constitutive equations. Analytical models for viscoelastic and dynamic behavior of anisotropic composite materials and structures. Experimental characterization of viscoelastic and dynamic behavior. (Y)

**7820 Engineering Non-Destructive Evaluation (NDE) Methods and Industrial Applications. Cr. 4**

Prereq: M E 4500. Basic and state-of-the-art methods utilized in NDE work at various engineering industries, enriched by hands-on laboratory work, audio visual and research projects as well as interaction with local industry. (Y)

**7850 Dynamics and Vibration of Automotive Engines. Cr. 4**

Prereq: M E 3410 and 5800. Kinematics, dynamics and balance of reciprocating engines, engine mounts and torsional vibrations of powertrains. (Y)

**7990 Directed Study. Cr. 1-4 (Max. 4)**

Prereq: written consent of advisor, chairperson and engineering graduate officer for master's students; written consent of advisor, chairperson and Dean of Graduate Studies for Ph.D. students. Student selects some field of engineering for advanced study and instruction. (T)

**7995 Special Topics in Mechanical Engineering II. Cr. 1-4**

Prereq: consent of chairperson. Maximum of six credits in Special Topics in any one degree program. A consideration of special subject matter in engineering. Topics to be announced in Schedule of Classes. (I)

**7996 Research. Cr. 1-4 (Max. 4)**

Prereq: consent of chairperson and advisor. A combined experimental and analytic study of a problem in a special field of engineering. (T)

**7997 Mechanical Engineering Graduate Seminar. Cr. 0**

Prereq: graduate standing. Offered for S and U grades only. Advanced concepts in mechanical engineering; presentation of research results and current developments. Written reports required. (F,W)

**8020 Crashworthiness and Occupant Protection in Transportation Systems I. Cr. 4**

Prereq: M E 5160, 7100, 7020. Crashworthiness and occupant safety facts, computational environment influences, review of federal motor vehicle safety regulations, windshield impact response, modeling

and simulation of restraint system, occupants, energy management, and barrier crash tests. (B)

**8030 Crashworthiness and Occupant Protection in Transportation Systems II. Cr. 4**

Prereq: M E 8020 and consent of instructor. Development of mathematical models of vehicle crashes in front, side, rear, and rollover modes. Roles of vehicle structures and restraint systems in reducing risk of injury. (W)

**8290 Advanced Combustion and Emissions II. Cr. 4**

Prereq: M E 7290 or consent of instructor. Heterogeneous combustion theories, diffusion flames, droplet combustion, spray combustion, mechanisms of emission formation in compression ignition, stratified charge and gas turbine engines. (I:F)

**8300 Advanced Topics in Fluid Mechanics. Cr. 4**

Prereq: M E 5300. Advanced topics in fluid flow with heat and mass transfer. Review of analytical methods and conservation laws. Linear and nonlinear hydrodynamic instability. Dynamical systems and chaos in fluid flow. (B:F)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: M E 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following M E 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: M E 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following M E 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: M E 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following M E 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in M E 9991- M E 9994. Offered for S and U grades only.

# Division of Engineering Technology

Office: 4855 Fourth Street; 313-577-0800

Chairperson: Chih-Ping Yeh

Website: <http://www.et.eng.wayne.edu/>

## Professors

Mulchand S. Rathod, Mukasa E. Ssemakula, Ece Yaprak

## Associate Professors

Gene Liao, Caisheng Wang

## Assistant Professors

Wen Chen, Ana Djuric

## Part-Time Faculty

M. Sohail Ahmed, Randy Fang, David Fu, Bryce Grevemeyer, Kuochih Hong, Ramarajan Ilankamban, Jean C. Lynn, Gopi K. Neelem, Boguslaw Opalinski, Sandra Overway, Moise Sunda, Joseph Vaglica, Tommy White, Kwo-Hsiung Young, Mark Zokvic

## Graduate Degree

### *MASTER OF SCIENCE in Engineering Technology*

The Division of Engineering Technology, founded in 1973, stresses the application of current technology to typical industrial problems. The curricula maintain a close relationship between theoretical principles taught in the classroom and their applications.

Engineering technology is a profession closely related to engineering. It deals with the application of knowledge and skills 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. Their responsibilities require technical and practical knowledge. Graduates of Wayne State's engineering technology programs are employed in such areas as manufacturing engineering, engineering production, marketing, maintenance, quality control, product testing, field engineering, consulting engineering, design, and technical supervision.

## Master of Science in Engineering Technology

The Master of Science in Engineering Technology (M.S.E.T.) program is designed to meet the needs of adults who wish to expand or upgrade their knowledge within the areas of their previous training or current profession. It provides for highly individualized graduate study, and is designed to promote greater depth of understanding in a field of specialization beyond the bachelor's level. It allows more advanced coverage in specialized topics, develops more rigorous analytical skills, helps to advance expertise, and prepares graduates to perform more sophisticated and independent work.

### **Admission Requirements and Student Selection Procedures:**

Admission to the M.S.E.T. degree program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, all applicants must:

a) Hold a bachelor's degree in engineering technology or a related discipline from a college or university of recognized standing, or the equivalent;

b) Have maintained at least a 'B' average (3.0 g.p.a.) in undergraduate coursework;

c) Provide at least two letters of recommendation from persons acquainted with the applicant's academic achievement at the institution most recently attended (applicants whose academic references date back more than five years may substitute other references, if desired);

d) Submit with his/her application a preliminary proposal for the intended plan of study which includes a general set of objectives and an outline of types of coursework or other educational projects to be pursued;

2. Applicants who do not meet the 3.0 g.p.a. requirement but whose g.p.a. does fall within the Graduate School's qualified admission span (2.5 to 2.74 g.p.a.) may be admitted with a conditional status. Immediately upon successful completion of two graduate-level courses with a grade of 'B' or above, the candidate must request in writing that his/her status be changed to regular status.

3. Students will be required to submit a finalized Plan of Work, listing all the courses the student intends to take to fulfill the degree requirements. The Plan must be developed with the aid of the student's faculty advisor and is generally submitted by the time the student has earned eight credits.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

**DEGREE REQUIREMENTS:** The Master of Science in Engineering Technology degree is offered under the following options:

**PLAN B:** A minimum of thirty-two credits in graduate-level (numbered 5000 and above) course work, including a four- to six-credit Master's Project (E T 7999).

**PLAN C:** A minimum of thirty-six credits of graduate level course work (numbered 5000 and above).

For either plan, students must complete the core requirements: E T 7430, E T 7450, and E T 7850. A minimum grade of 'B' is required in core courses, and no 'F' grade in any course is acceptable. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees (see sections beginning on pages 32 and 154, respectively), in addition to fulfilling the general scholarship requirements of the Division.

**Residency Requirement:** Of the required credits for the M.S.E.T. degree, a minimum of eighteen must be Division of Engineering Technology courses. A maximum of eight transfer credits may be allowed for graduate courses taken at other accredited institutions, if they are appropriate to the student's plan of study. Up to eight credits in graduate courses completed at Wayne State as a non-degree graduate student may be applied toward degree requirements and must be included in the applicant's preliminary Plan of Work. Minimum completion period for the degree is three semesters.

#### CURRICULUM REQUIREMENTS:

##### a) Core Courses (twelve credits)

- E T 7430 -- Methods of Engineering Analysis I: Cr. 4
- E T 7450 -- Methods of Engineering Analysis II: Cr. 4
- E T 7850 -- Statistical Methods and Applications: Cr. 4

##### b) Elective Course: Cr. 14-16

Selected graduate-level courses engineering technology, engineering, science and/or applied sciences, based on program objectives.

##### c) E T 7999 -- Master's Project: Cr. 4-6

Minimum credits required for M.S.E.T. degree: 32

**Master's Project:** E T 7999 integrates the knowledge gained in coursework, laboratory studies, and prior work experience to provide a focused activity demonstrating the student's ability to perform master's-level work. The master's project should include elements of design, synthesis, fabrication, CAD/CAM, and empirical and theoretical analysis balanced in a manner appropriate to the student's specific project.

A member of the Division of Engineering Technology faculty holding a graduate faculty appointment chairs the student's Master's Project Advisory Committee. (Individuals outside the Division directing master's project research must hold an adjunct graduate faculty appointment.) An adjunct graduate faculty member may co-chair the Committee. Using the form provided by the Division, the student must submit a proposal indicating the scope of the project, the problem to be solved, the nature of the system to be studied, the plan of approach and work plan for the activity, facilities and resources to be employed, and the student's qualifications for performing this work. The Master's Project Advisory Committee may accept, decline, or request resubmission of the proposal as explained to the student. Only students with accepted proposals are allowed to register for E T 7999. Requests to elect additional credits in E T 7999 beyond those originally allowed by the Master's Project Advisory Committee must also be approved by the Committee.

## GRADUATE COURSES

### ENGINEERING TECHNOLOGY (E T)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). For interpretation of numbering system, signs and abbreviations, see page 652.

#### 5500 Graduate Industrial Internship. Cr. 1-4 (Max. 4)

Prereq: graduate standing and consent of instructor. Offered for S and U grades only. Industrial practice under supervision in cooperative education. Oral presentation and written report describing professional experience required. (T)

#### 5870 Engineering Project Management. Cr. 3

Prereq: MAT 1800. Insights into human and organizational behavior affecting products; quantitative tools for successful management of engineering projects. A variety of product types are addressed. How to select, initiate, operate and control as well as terminate a project. (F,W)

#### 5995 Special Topics in Engineering Technology I. Cr. 1-4 (Max. 8)

Prereq: consent of instructor. Topics to be announced in Schedule of Classes. (I)

#### 7300 Advanced Battery Systems for Hybrid Electric Vehicles. Cr. 4

Prereq: PHY 2140. Hybrid vehicle technology and battery fundamentals, including powertrain requirement, configuration and components, in-vehicle emergency storage systems, thermal management, control systems, cell monitoring, balancing, and on-board diagnostics. Computer simulation for battery system modeling and hands-on experiments for battery testing, validation, and verification. (F,W)

#### 7430 Methods of Engineering Analysis I. Cr. 4

Prereq: E T 3450. Applications of differential equations, partial derivatives, Laplace transforms, Fourier series, matrices, vectors. (F,W)

#### 7450 Methods of Engineering Analysis II. Cr. 4

Prereq: CSC 1050; coreq: E T 7430. Computer applications and numerical methods of solving differential and integral equations, fast Fourier transforms, spectrum analysis, curve fitting, approximation of function. (W)

#### 7850 Statistical Methods and Applications. Cr. 4

Prereq: E T 3850, coreq: E T 7430. Sampling techniques in production data analysis, correlation coefficients, regression analysis, control charts, design of experiments, analysis of variance, Factor analysis. (W)

**7990 Directed Study. Cr. 1-8 (Max. 8)**

Prereq: consent of instructor. 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. (T)

**7995 Special Topics in Engineering Technology II. Cr. 1-4 (Max. 8)**

Prereq: consent of instructor. Topics to be announced in Schedule of Classes. (I)

**7999 Master's Project. Cr. 1-6 (Min. 4, max. 6)**

Prereq: consent of instructor. Design, fabrication, system optimization, and applications of graduate level material. (T)

## ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY (EET)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). For interpretation of numbering system, signs and abbreviations, see page 652.

**5720 Computer Networking Applications. Cr. 4 (LCT: 3; LAB: 2)**

Prereq: EET 3100, 3720. Networking protocols, components, architecture, and standards. Data communication, data packet structure, data transmission methods and techniques, network topologies, and media access control methods. Material Fee As Indicated In The Schedule of Classes (Y)

**6150 Machine Vision in Manufacturing. Cr. 4**

Prereq: E T 3850, PHY 2140. Machine vision concepts, image applications in robotics, digital vision systems, vision acquisition and processing, pattern recognition and texture analysis, cameras and software tools. (I)

**6200 Control Systems for Vehicles. Cr. 4**

Prereq: EET 4200. Control systems applied to traditional and hybrid automotive applications. Open and closed loops, electronic controls; sensors and transducers; hybrid and electric vehicles; engine control fundamentals; power-train controls; vehicle control in intelligent vehicle highway systems. (I)

**6300 Industrial Laser Applications. Cr. 4**

Prereq: E T 3450, PHY 2140. Laser technology, industrial and medical applications, lasers in electronic fabrication. Laser metrology, integrated optics, laser maintenance and safety. (I)

**7720 Advanced Computer Networking. Cr. 4**

Prereq: EET 5720; coreq: E T 7430. Latest advances in networking; internetworking with bridges, routers, and switches. LAN and WAN protocols, high speed networks. (Y)

## MANUFACTURING/INDUSTRIAL ENGINEERING TECHNOLOGY (MIT)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). For interpretation of numbering system, signs and abbreviations, see page 652.

**5500 Machine Tool Laboratory. Cr. 1 (LAB: 3)**

Prereq: E T 2140. Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. (F,W)

**7320 Modeling and Control of Production Systems. Cr. 4**

Prereq: E T 3850; coreq: E T 7430. Mathematical modeling for the control and management of production systems. Applications of linear programming. Project scheduling, forecasting, and Markov-process models. (I)

**7700 Robotics and Flexible Manufacturing. Cr. 4**

Prereq: E T 7430, MIT 4700. Kinematics, dynamics and controls of the manipulators, their design and applications in flexible manufacturing cells. Computer-integrated manufacturing. (I)

## MECHANICAL ENGINEERING TECHNOLOGY (MCT)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). For interpretation of numbering system, signs and abbreviations, see page 652.

**5210 Energy Sources and Conversion. Cr. 3**

Prereq: E T 3430, PHY 2140. 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. (Y)

**6150 Hybrid Vehicle Technology. Cr. 4**

Prereq: E T 3450, PHY 2140. 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. (Y)

**6410 Applied Vehicle Dynamics. Cr. 4**

Prereq: E T 3450, E T 3050/EET 4200. Dynamic performance balance of vehicle subsystems: powertrains, brakes, steering, suspension, and tire; steady and transient motion conditions; role of structure and structural parameters to vehicle dynamics. (I)

**7230 Electronic Cooling and Packaging. Cr. 4**

Prereq: E T 7430, MCT 4150 or former MCT 3150. Fundamentals of heat transfer and fluid mechanics, heat exchangers, thermal control techniques, cooling of electronic systems and devices. (I)

College of Fine, Performing,  
and Communication Arts

DEAN: Matthew W. Seeger

# Foreword

The College of Fine, Performing and Communication Arts 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 Hilberry Repertory Theatre, the Wayne State University Dance Company, the Symphonic Band and University Orchestra, the Intercollegiate Debate Team, plus exhibitions in the Elaine L. Jacob Gallery-which features national and international artists and designers, and the Art Department Gallery, all of which usually features work created by students, faculty, and alumni. 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 campus to institutions of the Detroit Cultural Center (which includes the Detroit Institute of Arts, the Museum of Contemporary Art Detroit, the Detroit Public Library, the Charles 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 of Fine, Performing and Communication Arts 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 in the Music Department are accredited by the National Association of Schools of Music. Programs offered by the Maggie Allesee Department of Theatre and Dance are accredited by the National Association of Schools of Theatre and the National Association of Schools of Dance..

## Graduate Degrees and Certificates

*GRADUATE CERTIFICATE in Communication and New Media*

*GRADUATE CERTIFICATE in Dispute Resolution*

*GRADUATE CERTIFICATE in Health Communication*

*GRADUATE CERTIFICATE in Orchestral Studies*

*MASTER OF ARTS with majors in*

*Art*

*Art History*

*Communication*

*Design and Merchandising*

*Music*

*Theatre*

*MASTER OF ARTS IN DISPUTE RESOLUTION*

*Joint MASTER OF ARTS in Dispute Resolution / JURIS DOCTOR*

*MASTER OF MUSIC with concentrations in*

*Composition/Theory*

*Conducting*

*Jazz Performance*

*Music Education*

*Performance*

*MASTER OF FINE ARTS with majors in*

*Art*

*Theatre*

*DOCTOR OF PHILOSOPHY with majors in*

*Communication*

*Theatre*



# Academic Regulations

*For complete information regarding rules and regulations of the Graduate School, students should consult the general information section of this bulletin beginning on page 18. The following additions and amendments pertain to the College of Fine, Performing and Communication Arts.*

## Regular Admission

—See page 18.

In the selective admission of graduate students, preference is given to those students who have achieved superior undergraduate scholastic records and who evidence superior artistic abilities.

If a student's undergraduate preparation is considered deficient for advanced work in his/her major field, additional work may be required at the undergraduate level. All prerequisite credits must be earned prior to or concurrent with the first graduate credits. Certain degrees have additional requirements as stated in the following pages.

## Graduate Scholarship

Graduate degrees are conferred not merely upon the completion of a prescribed number of courses nor necessarily after a given period of residence, but rather in recognition of each candidate's outstanding ability and high attainments as evidenced in all course work, research, scholarly writing, examinations, personal fitness for a chosen profession, and promise of professional competence. All course work must be completed in accordance with the academic regulations of the Graduate School, as well as College and Departmental regulations governing graduate scholarship and degrees; see sections beginning on pages 36 and 207.

## GRADUATE DEGREE REQUIREMENTS

General requirements for graduate degrees may be found beginning on page 36. In addition to these and to the information below, other requirements are specified by the individual graduate departments. Students should consult the program and requirements of the departments in which they plan to major.

**Candidacy** is an advanced status that is recommended by the student's advisor and authorized by the Graduate School upon evidence of the applicant's superior scholarship, appropriate personal qualities and promise of professional competence. Admission as an applicant does not assure acceptance as candidate for a degree. Also, candidacy is a necessary but not sufficient requirement for graduation.

To be eligible for candidacy, the student must file an official, approved Plan of Work. The Plan of Work should provide for effective concentration in a major field, with proper supporting courses in related fields. All master's applicants should file the Plan of Work with their respective department's graduate officer. In preparing a Plan, students should evaluate with care their personal and professional objectives as well as all degree and departmental requirements. Normally, students enrolled in master's degree programs are expected to file a Plan of Work by the time the equivalent of eight to twelve graduate credits have been earned. In the Master of Fine Arts program, however, the Plan of Work should be filed by the time the equivalent of fourteen to eighteen credits have been earned. Candidacy must be authorized by the time twelve to eighteen graduate credits have been earned (dependent upon the applicant's degree program) or subsequent registration may be denied. Plans are filed with the department's Graduate Officer. Once the Plan of Work has been approved, the form to change the student's classification from 'applicant' to 'candidate' will be processed by the department Graduate Officer.

Ph.D. applicants should file the Plan of Work with the Graduate School, when approximately forty credits beyond the baccalaureate degree have been earned. In addition to filing the Plan, the student must have satisfied the foreign language requirements, must have passed the Final Qualifying Examination (written and oral), and must have submitted and received the Graduate Dean's approval on the Dissertation Outline before the doctoral committee will recommend candidacy.

**Commencement:** Students are required to file an Application for Graduation with the Registrar's Office no later than the end of the fourth week of classes in the intended term of graduation. Information concerning commencement announcements, caps and gowns, invitations, tickets, time and place, assembling and other relevant items will be mailed to graduates 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.

## Master's Degree Requirements

In the Master of Arts and Master of Music programs, the minimum requirement for the degree is thirty-two credits under one of the following plans:

**Plan A:** Twenty-four credits in course work plus an eight-credit thesis.

**Plan B:** Twenty-nine credits in course work plus a three-credit essay.

**Plan C:** Thirty-two credits in course work. This plan is authorized only in selected areas. The essay or thesis is not required for this plan; however, most departments require a final comprehensive examination. Students should consult an advisor for details.

These requirements vary slightly depending on the department and major curriculum; students should see the degree programs outlined in the following pages for specific information.

**COURSE REQUIREMENTS:** At least twenty-four credits must be taken in residence. At least six credits in the major field, in addition to the essay or thesis, must be in courses open only to graduate students (7000 and above).

## Master of Fine Arts Degree Requirements

In the Master of Fine Arts degree programs, the minimum requirement includes fifty-four to sixty graduate credits plus a final project completed under Plans B or C as follows:

**Plan B:** Sixty credits including a three-credit essay. This plan is open only to studio art majors.

**Plan C:** Sixty credits, depending on the student's major, including a final project. For specific requirements, students should consult the Art and Art History or Theatre departmental sections of this bulletin.

All M.F.A. degree requirements must be completed within three years.

## Doctoral Degree Requirements

Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate degree including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled through registration in the courses 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

## — Examinations

**Preliminary Qualifying Examinations:** Responsibility for the requirement of a preliminary qualifying examination is vested in the graduate faculty of each department and specifically its committee on doctoral study. Accordingly, each committee may require this examination of all of its candidates or of any candidate at any time it may determine prior to the final qualifying examination.

**Final Qualifying Examination:** The final qualifying examination is required of each applicant. The applicant may request his/her doctoral committee to authorize the final qualifying examination after an approved Plan of Work has been filed with the Graduate School, AND after the Dean of the Graduate School has approved the *Dissertation Outline*. The examination will be in part written and in part oral. When this examination has been passed, the applicant will be advanced to the status of 'doctoral candidate'.

**The Written Qualifying Examination** will cover the applicant's major and minor areas and may include such other related matters as the doctoral examining committee may prescribe. Within thirty days after the written examination has been passed, the oral qualifying examination will be conducted by the doctoral examining committee, in the presence of the chairperson of the departmental committee on doctoral study or his/her designee. This examination will relate to the subject matter of the written examination, the applicant's major and minor areas and other pertinent matters.

If an examining committee does not certify that the applicant has been passed in either the written or oral examination, it must make specific recommendations with reference to admitting the applicant to a second examination and specify any additional work that should be completed prior to such an examination. If a second examination is held, it must be scheduled within one calendar year and shall be considered final.

The student's doctoral committee is selected at the time the doctoral Plan of Work is prepared. At this time, and upon consultation with the chairperson of the student's doctoral committee, a member outside of the student's major department is appointed to the committee and is expected to meet as a member of the student's committee while the research and preparation of the dissertation are in process. He/she, along with all members of the committee, will also be present at the final oral presentation. The chairperson of the student's committee files a brief report to the Graduate School detailing the conduct of the oral presentation.

## — Essays, Theses, and Dissertations

There is no prescribed form for the essay. Title page format as given in the Graduate School's *Guide for Preparing Theses and Dissertations* may be used for essays. Standard style manuals may be consulted for form, as desired by the student or department.

One copy of the essay should be approved and signed by the advisor. This copy will reside with the department.

The thesis or dissertation *must be an original work, either in or definitely related to the student's major area of specialization*. If proper standards of quality, objectivity, originality, and independence are maintained, the candidate may use data which he/she has derived from his/her University research. Neither the results of the research nor the publication of findings can be restricted by any non-university agency nor can they be published prior to acceptance by the Graduate School, unless prior approval of such publication has been secured from both the advisor and the Graduate School. Advisors have primary responsibility for approval of the essay or thesis, but every member of a doctoral committee must read, approve and sign the dissertation.

A thesis student may not begin work on a manuscript until he/she has submitted an approved Plan of Work and outline form. He/she may then register for the thesis or dissertation and pay regular fees in the same manner as for all other course work.

Master's degree candidates under the essay plan register for the course numbered 7999, Master's Essay Direction, in the department of their major; a total of three credits must be elected.

Master's candidates under the thesis plan register for the course numbered 8999 in the department of their major. This course is entitled *Master's Thesis Research and Direction* and must be elected for a total of eight credits. Ph.D. candidates register for thirty credits in their major field in the courses numbered 9991-9994, as outlined above, under 'Doctoral Degree Requirements.' All credit used toward meeting dissertation requirements must be earned in this course.

The publication and dissemination of research findings will not be restricted by the University after the manuscript has been received and accepted by the Graduate School.

## FINANCIAL AID

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26. Additional information may be found in the College departmental sections, below.

## MULTIDISCIPLINARY FINE ARTS COURSES (FPC)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5010 Special Topics. Cr. 1-3 (Max. 6)

(Y)

### 5020 Legal Environment of the Arts. Cr. 3

Prereq: junior standing. Law affecting persons in the entertainment business: artists, actors, musicians, producers, directors, writers, managers, agents, and others. Areas of contract, tort, copyright, trademark and First Amendment law that concern entertainment. (Y)

### 5500 Topics in Art in Community. Cr. 3

Prereq: junior, senior or graduate standing in the College; consent of instructor. Role and function of art and the artist in community, accompanied by a required community-based learning project. Topics and nature and location of community projects vary from term to term. Material Fee as given in Schedule of Classes. (I)

### 5660 Creativity: Building the New. Cr. 3-4

Prereq: junior standing or above, or consent of instructor. Study of creativity with personal application. Investigations in artistic, scientific, social science, engineering, industrial, and other areas. Actual application and problem-solving skills. (Y)



## DIRECTORY OF THE COLLEGE

University Telephone Area Code: 313

Website: <http://www.cfpc.wayne.edu/>

### Dean

Matthew W. Seeger: 5104 Gullen Mall; 313-577-5342

### Interim Senior Associate Dean for Academic Affairs

John D. Vander Weg: 5104 Gullen Mall; 313-577-5342

### Interim Associate Dean for Student Affairs and Research

Judith A. Moldenhauer: 5104 Gullen Mall; 313-577-5342

### Assistant Dean for Administrative Affairs

Joan M. Ferguson: 5104 Gullen Mall; 313-577-5342

### Assistant to the Dean

Lezlie Hart: 5104 Gullen Mall; 313-577-5337

### Budget

Janine Dunlop: 5104 Gullen Mall; 313-577-5206

### Information Officer

David Romas: 5104 Gullen Mall; 313-577-5448

### Computing Systems

Gary Cendrowski: 5104 Gullen Mall; 313-577-8341

### Director of Development

Kevin McAlpine: 5104 Gullen Mall; 313-577-1458

### Assistant Director of Development

Kelly Cronin: 5104 Gullen Mall; 313-577-5336

### Information Technology

Byron Clemens: 5104 Gullen Mall; 313-577-5363

### Personnel

Robin Collins: 5104 Gullen Mall; 313-577-5365

### Reception

Beth Babini: 5104 Gullen Mall; 313-577-5342

### Secretary to the Dean

Nicole Johnson; 5104 Gullen Mall; 313-577-9820

### Student Services

5104 Gullen Mall; 313-577-5364

## DEPARTMENTAL OFFICES

### Art and Art History

John Richardson: 150 Art Building; 313-577-2980

### Communication

Loraleigh Keashly: 585 Manoogian Hall; 313-577-2943

### Music

John D. Vander Weg: 1321 Old Main; 313-577-1795

### Theatre and Dance

James Thomas: 3225 Old Main; 313-577-3508

### Mailing address for all offices:

(Department Name), College of Fine, Performing and Communication Arts, 5104 Gullen Mall, Wayne State University, Detroit, MI 48202

## Art and Art History

Office: 150 Art Building, 450 Reuther Mall; 313-577-2980

Chairperson: John Richardson

Undergraduate Art Advisor: Michele Porter

Visual Resource Curator: Terry Kirby

Interim Art Exhibitions Director: Tom Pyrzewski

Art Studio Supervisor: Robert Taormina

Sculpture and 3D Studio Supervisor: Michael Bogdan

Website: <http://www.art.wayne.edu>

### Professors

James Nawara, Melvin Rosas, Stanley Rosenthal, Joseph B. Zajac

### Associate Professors

Jeffrey Abt, Dora Apel, Pamela DeLaura, Margaret Franklin, Brian Kritzman, Evan Larson-Voltz, Brian Madigan, Judith Moldenhauer, John Richardson, Marilyn Zimmerman

### Assistant Professors

Danielle Aubert, Adrian Hatfield, Lauren Kalman, Kevin Kissell, Prita Meier, Cristobal Mendoza, Jennifer Olmsted, Millee Tibbs, Eric Troffkin, Margi Weir

### Lecturers

Andrea Cardinal, Rayneld Johnson, Tom Pyrzewski, Dennis Robare, Alice Smith, Ryan Standfest, Susan Widawski

### W. Hawkins Ferry Endowed Chair

#### *in Twentieth Century Art History and Art Criticism*

Dora Apel

### Emeritus/Emerita Faculty

William A. Allen, Phyllis A. Ashinger, Richard J. Bilaitis, Robert Broner, Thomas P. Fitzgerald, Joseph Gutmann, John G. Hegarty, Carolyn Jane Hooper, Marion E. Jackson, Urban Jupena, John Mills, Thomas C. Parish, William E. Pitney, Patricia A. Quinlan, James M. Raymo, Horst Uhr, Robert J. Wilbert

## Graduate Degrees

*MASTER OF ARTS with a major in art and a specialization in one of the following: ceramics, drawing, fibers, graphic design, industrial design, interior design, metalsmithing, painting, photography, printmaking, or sculpture*

*MASTER OF ARTS with a major in art history*

*MASTER OF ARTS with a major in design and merchandising*

*MASTER OF FINE ARTS with a major in art and a specialization in one of the following: ceramics, drawing, fibers, graphic design, metalsmithing, painting, photography, printmaking, or sculpture*

## Master of Arts in Art

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The applicant must hold a Bachelor of Fine Arts degree or another degree and equivalent course work. Admission by the Graduate School of the University means only that the applicant has satisfied the academic standards required for general admission. Final admission is determined by the Department based on the following ranked criteria: 1) portfolio, 2) personal interview, 3) academic record.

**DEGREE REQUIREMENTS:** A minimum of thirty-two credits in art, including at least eighteen credits in the studio major, six credits in electives, three credits in art history, two credits in the Master of Arts Seminar in art, and three credits in Master's Essay. This program is offered under the following option:

**Plan B:** Thirty-two credits in course work, including three credits for an essay.

**Candidacy:** All graduate students begin their work as Master's Applicants. After twelve credits have been completed, a Plan of Work must be signed by the advisor and submitted to the Department Graduate Officer. If the student has maintained a 3.0 grade point average and the Plan is accepted, his/her status is changed to Master's Candidate.

## Master of Arts in Art History

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The applicant must have an undergraduate or equivalent degree in art history, a minimum 'B' average in undergraduate art history, and three semesters of college-level work in one approved foreign language appropriate to academic scholarship with a 'B' (3.0) average.

**DEGREE REQUIREMENTS:** This master's degree is offered under the following options:

**Plan A:** Thirty-two credits in course work, including at least six credits on the 7000-level and eight credits in thesis.

**Plan B:** Thirty-three credits in course work, including at least six credits on the 7000-level and three credits in essay.

Students may concentrate in one of the following areas, but must take at least one course four of the five core areas: African, Classical, Medieval, Renaissance/Baroque, and Modern (nineteenth through twenty-first centuries). All students are required to take A H 5090, (WI) Theory and Methods of Art Historical Research, in their first year unless they have taken a similar course during their undergraduate training. Students must pass a comprehensive examination after fifteen graduate credits towards the master's degree have been earned and before the essay or thesis topic can be approved by the advisor.

Applicants should obtain from the Department a copy of *Guidelines for M.A. Degree Candidates in Art History* for more details.

**Candidacy:** see above under Master of Arts in Art degree.

## Master of Arts in Fashion Design and Merchandising

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants for a graduate degree in fashion design and merchandising must have at least a 2.80 g.p.a. Persons lacking a limited number of prerequisites may be admitted on probation until completion of certain courses specified by the advisor. Undergraduate preparation should include a minimum of twelve credits in clothing and textiles, merchandising, and consumer affairs, with supporting courses in closely-related fields. The Graduate Record Examination (general section only) is required of all applicants. Additional requirements depend upon area of specialization. Final admission is determined based on the following ranked criteria: 1) portfolio, 2) personal interview, 3) academic record.

**DEGREE REQUIREMENTS:** The master's degree is offered under the following options:

**Plan A:** Requires a total of thirty-two credits, including a total of eight credits for a thesis.

**Plan B:** Requires a total of thirty-two credits, including a minimum of three credits for an essay.

The thesis or essay and at least one-half of all other credits, including the final seminar, must be in the major field. At least six credits of coursework in the major field, in addition to the essay or thesis, must be in courses numbered 7000-7999. It is strongly recommended that at least two courses be elected outside the Department of Art and Art History, and include a course in statistics.

**Candidacy:** see above under Master of Arts in Art degree.

## Master of Fine Arts in Art

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants who present a superior portfolio and hold a Bachelor of Fine Arts degree or a Master of Arts degree in art may apply for direct admission. During the semester in which an applicant in the Master of Arts in Art program will be completing a minimum of fifteen credits, the student may be invited by the graduate review committee to apply for admission to the Master of Fine Arts program. If accepted, the applicant's fifteen credits in graduate study may apply toward the Master of Fine Arts degree.

In either case, the M.F.A. degree program demands superior qualification, potential, and commitment as an artist.

**Candidacy:** After twelve credits have been completed, a Plan of Work must be signed by the advisor and submitted to the Department Graduate Officer. An applicant becomes a degree candidate only upon recommendation by the graduate review committee.

**DEGREE REQUIREMENTS:** The Master of Fine Arts degree is offered under the following option:

**Plan C:** Sixty credits in art, including a thesis exhibition held as close to the final semester as possible.

Plan C must be completed within three years. A minimum of sixty credits in art should include at least thirty-six credits in the studio major, twelve credits in electives, six credits in art history (one of which is to be a 20th century survey of art or a course on contemporary art), and six credits in the M.F.A. Seminar (ACS 8997 and ACS 8998).

Full-time attendance is required in the program which requires a minimum of four semesters of study, excluding the summer term. All M.F.A. candidates must also meet the following requirements:

1. A satisfactory final review of the candidate's work.
2. An exhibition of the work produced for M.F.A. credit.
3. Submission for departmental files of 5-10 slides or CD of the work.
4. The completion and submission of an artist's statement. The statement will accompany the thesis exhibition.

This program provides the student with the opportunity for intensive work toward personal artistic goals. The entire graduate staff is available to the student for consultation and instruction.

## Assistantships and Scholarships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26. The following information pertains to the Department of Art and Art History.

**Graduate Teaching Assistantships** are offered for a full academic year and include a stipend and a waiver of tuition for up to ten credits in the Fall and Winter terms. They are available on a limited basis and selection is determined by a combination of merit and the teaching needs of the Department. Consequently, assistantships are usually reserved for students on the advanced level of the M.F.A. program.

**Departmental Scholarships:** The scholarships listed below pertain to the Department. In addition, other private and institutional donors make scholarship funds available to the Department for students in

art and art history. Detailed information on scholarships is available in the Art and Art History Office.

**Albert and Peggy DeSalle Scholarship Fund:** An award of variable amount open to any student in the Department specializing in metals or photography; based on financial need, artistic talent, and scholastic achievement.

**Linda Marlene Iden Scholarship:** An award of variable amounts open to any student in the department specializing in one of the studio art areas; based on artistic talent, academic performance, and financial need.

**Marji Kunz Fashion Scholarship:** An award of variable amount open to any student in fashion design and merchandising based on scholarly and professional development.

**John and Irene Sowinski Scholarship:** An award of variable amount open to any student in the Department specializing in one of the studio art areas; based on financial need, artistic talent, and scholastic achievement.

**Albert L. and Alice W. Steinbach Scholarship:** An award of variable amount open to any student in the Department specializing in art history; based on past academic achievement and scholarly potential.

**Presidential Scholarship:** An award of \$1,000 offered to an incoming graduate student in recognition of outstanding past achievement and exceptional artistic potential.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). The following courses numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## GRAPHIC DESIGN (AGD)

### **5250 Graphic Design III: Complexity and Variety in Design. Cr. 3**

Prereq: AGD 2240, 2250, 3250, and 4250. Open only to upper division art majors in B.A. or B.F.A. program; or M.A. program art majors. Complex design situations. Research and methodology. Project may include package design, instruction manuals, book and brochure design, publication design. Material Fee as indicated in the Schedule of Classes. (F,W)

### **5260 (WI) Senior Seminar. Cr. 3**

Prereq: senior standing. Open only to upper division art majors in B.A. or B.F.A. program; or M.A. program art majors. 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. Material Fee as indicated in the Schedule of Classes. (W)

### **5700 Special Topics. Cr. 3 (Max. 6)**

Prereq: AGD 4250, senior standing or junior standing with consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program; or M.A. program art majors. Examination of specific issue in design theory, history or practice. Topics may include: corporate

identity, globalization of design, exhibition design, design history. Material Fee as indicated in the Schedule of Classes. (S)

### **5890 Directed Projects: Graphic Design. Cr. 3 (Max. 15)**

Prereq: consent of instructor. Open only to art majors in B.A., B.F.A. or M.A. program. Individual problems. Material Fee as indicated in the Schedule of Classes. (F,W)

### **5990 Field Study: Internship. Cr. 3**

Prereq: AGD 4250, consent of instructor; written consent of instructor required if elected for more than three credits. Open only to senior art majors in B.A. or B.F.A. program. Supervised field experience designated to correlate classroom theory with practical work. Material Fee as indicated in the Schedule of Classes. (T)

### **5997 Graphic Design IV: Systems, Series, and Advanced Studies in Visual Communication. Cr. 3**

Prereq: AGD 2240, 2250, 3250, 4250, and 5250. Open only to upper division art majors in B.A. or B.F.A. program; or M.A. program art majors. 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. Material Fee as indicated in the Schedule of Classes. (F,W)

### **6260 Advanced Typography. Cr. 3**

Prereq: junior standing and completion of AGD 4250. Open only to upper division art majors in B.A. or B.F.A. program; or M.A. program art majors. Advanced and experimental typography; typography as an expressive language in 2-D and 3-D; projects in information design. Material Fee as indicated in the Schedule of Classes. (I)

### **6270 Graphic Design Practicum. Cr. 3**

Prereq: senior standing, acceptance of portfolio. Open only to senior art majors in B.A. or B.F.A. program; or M.A. program art majors. Students work on actual graphic design projects with clients from non-profit organizations. Initial discussion with client through delivery of printed work. Material Fee as indicated in the Schedule of Classes. (I)

### **6280 Pre-Press and Production. Cr. 3**

Prereq: AGD 4250, junior standing. Open only to upper division art majors in B.A. or B.F.A. program; or M.A. program art majors. Preparation of design work for production. How print production influences design concept, connections between pre-press preparation and finished printed work. Field trips and actual print production. Material Fee as indicated in the Schedule of Classes. (S)

### **7250 Graduate Problems in Graphic Design. Cr. 3-9 (Max. 24)**

Prereq: AGD 5250. Election of more than three credits per semester requires consent of instructor. Open only to students in M.A. program. Individual problems in advanced advertising design. Material Fee as indicated in the Schedule of Classes. (F,W)

### **8850 M.F.A. Studio: Graphic Design. Cr. 3-9 (Max. 36)**

Open only to art majors in M.F.A. program. Extended problems in graphic design; individual research with eighteen to twenty-seven hours of laboratory per week. Material Fee as indicated in the Schedule of Classes. (F,W)

## CERAMICS (ACR)

### **5550 (ACR 2550) Advanced Ceramics. (ACR 2560) (ACR 3550) (ACR 4550) (ACR 7550) Cr. 3-6 (Max. 12)**

Prereq: ACR 4550. Open only to art majors in B.F.A. or M.F.A. program. Election of more than 3 credits per semester requires consent of instructor. Advanced hand building and wheel throwing demonstrations. Lectures on historical and contemporary issues. Emphasis on personal growth and development. Material Fee as indicated in the Schedule of Classes. (T)

**5570 Ceramics: Special Projects. Cr. 1 (Max. 6)**

Open only to art majors in B.F.A. or M.F.A. program. Student experience with a specialized facility and faculty to complement individual growth and development. (T)

**5880 Directed Projects: Ceramics. Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to art majors in B.F.A. or M.F.A. program. Independent projects and study in consultation with faculty. Material Fee as indicated in the Schedule of Classes. (F,W)

**7550 (ACR 2550) Graduate Problems in Ceramics. (ACR 2560) (ACR 3550) (ACR 4550) (ACR 5550) Cr. 3-9 (Max. 24)**

Prereq: ACR 5550. Election of more than three credits per semester requires consent of instructor. Open only to art majors in M.A. or M.F.A. program. Individual problems in advanced ceramics. Material Fee as indicated in the Schedule of Classes. (T)

**8880 M.F.A. Studio: Ceramics. Cr. 3-9 (Max. 36)**

Open only to art majors in M.F.A. program. Extended problems in ceramics; individual research with eighteen to twenty-seven hours of laboratory per week. Material Fee as indicated in the Schedule of Classes. (F,W)

**DRAWING (ADR)****5060 Advanced Concepts in Drawing and Painting. (ADR 7060) Cr. 3-6 (Max. 15)**

Prereq: ADR 3070 or APA 4000. Open only to art majors. 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. Material Fee as indicated in the Schedule of Classes. (Y)

**5070 (ADR 2070) Advanced Life Drawing. (ADR 3070) (ADR 7070) Cr. 3-6 (Max. 24)**

Prereq: ADR 3070. Election of more than three credits per semester requires consent of instructor. Open only to art majors. Continued study of human figure based on observation. Composition. Expressive interpretation of the figure through broad range of media. Material Fee as indicated in the Schedule of Classes. (F,W)

**5080 Landscape Drawing. (ADR 7080) Cr. 3-6 (Max. 15)**

Prereq: ADR 1050, ADR 1060, and ADE 1200. Election of more than 3 credits per semester requires consent of instructor. Open only to art majors. 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. Material Fee as given in Schedule of Classes. (S)

**5090 Anatomy. Cr. 3**

Prereq: ADR 2070. Superficial human anatomy including effects of muscular and skeletal systems. Drawing from both models and skeletons, lectures, demonstrations. Material Fee as indicated in the Schedule of Classes. (Y)

**5100 (APA 5100) Contexts of Studio Practice. Cr. 3 (Max. 6)**

Open only to art majors in B.A., B.S., B.F.A. program, or M.A. or M.F.A. art majors. 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. (Y)

**5800 Directed Projects: Drawing. Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to art majors. Individual work supervised by faculty on arranged basis. (F,W)

**7060 (ADR 5060) Graduate Problems in Drawing and Painting. Cr. 3-9 (Max. 24)**

Open only to art majors. Emphasis on self-directed projects with advice from faculty. May include lectures, demonstrations, and visits to off-campus sites. Material Fee as indicated in the Schedule of Classes. (Y)

**7070 (ADR 2070) Graduate Life Drawing. (ADR 3070) (ADR 5070) Cr. 3-9 (Max. 24)**

Prereq: ADR 5070. Election of more than three credits per semester requires consent of instructor. Open only to art majors. Individual projects based upon study of the human figure. Broad range of media encouraged. Material Fee as indicated in the Schedule of Classes. (F,W)

**7080 (ADR 5080) Landscape Drawing. Cr. 3-6 (Max. 15)**

Election of more than 3 credits per semester requires consent of instructor. Open only to art majors. 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. Material Fee as given in Schedule of Classes. (S)

**8800 M.F.A. Studio: Drawing. Cr. 3-9 (Max. 36)**

Open only to art majors in M.F.A. program. Extended self-directed work in drawing (eighteen to twenty-seven hours per week). Consultation with appropriate graduate faculty on an arranged basis. (F,W)

**FASHION DESIGN and MERCHANDISING (AFA)****5422 Fashion Design: Flat Pattern. Cr. 3 (Max. 6)**

Prereq: AFA 2410, or consent of instructor. Open only to design majors in B.A., B.S., or M.A. program. Original designs from a basic sloper. Material Fee as indicated in the Schedule of Classes. (Y)

**5430 History of Costume. Cr. 3**

Prereq: one art history course or consent of instructor. Survey of historic costumes from prehistoric to present. Emphasis on influence of social factors. (F)

**5442 Fashion Design: Draping. Cr. 3 (Max. 6)**

Prereq: AFA 2420, AFA 5422, or consent of instructor. Open only to design majors in B.A., B.S., or M.A. program. Creation of original garments by draping on half-scale and standard-size dress forms. Material Fee as indicated in the Schedule of Classes. (I)

**5452 Fashion Design: Tailoring. Cr. 3**

Prereq: AFA 2420, AFA 5422, AFA 5442. Open only to design majors in B.A., B.S., or M.A. program. Tailoring techniques applied to coats and suits. Material Fee as indicated in the Schedule of Classes. (F)

**5460 Merchandising II. Cr. 3**

Prereq: AFA 3460. Open only to design majors in B.A., B.S., or M.A. program. Current trends in merchandising. Emphasis on global aspects. (F)

**5470 Visual Merchandising: Display. Cr. 3**

Prereq: ADE 1200, ADE 1200, or consent of instructor. Open only to design majors in B.A., B.S., or M.A. program. 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. Material Fee as indicated in the Schedule of Classes. (F,W)

**5490 Economics of Merchandising. Cr. 3**

Prereq: completion of Math Proficiency Requirements, AFA 3460. Open only to design majors in B.A., B.S., or M.A. program. Application of merchandising principles and systematic planning to achieve profit goals. (W)

**5992 Supervised Field Experience**

Prereq: senior standing. Open only to senior design majors in B.A., B.S., or M.A. program. Supervised Field Experience designed to correlate classroom theory with practical work. (F,W)

**6440 Computer-Aided Design for Apparel Design. Cr. 3**

Prereq: AFA 5440 or consent of instructor. Open only to design majors in B.A., B.S., or M.A. program. Use of computer-aided design software applied to apparel design concepts; garment designing, grading, and marker-making. Material Fee as indicated in the Schedule of Classes. (W)

**6993 Study Tour. Cr. 3**

Prereq: consent of instructor. Open only to art or design majors in B.A., B.S., B.F.A., M.A. or M.F.A. program. Group tour to major market sources; observation and analysis of products and marketing procedures. Topics to be announced in Schedule of Classes. (B:S)

**7410 Practicum in Textile Testing. Cr. 3**

Prereq: AFA 2410 or consent of instructor. No credit after AFA 3410. Open only to design majors in B.A., B.S., or M.A. program. Recent developments in textiles and quality assurance practices. Standardized testing methods to determine textile properties and performance. Material Fee as indicated in the Schedule of Classes. (W)

**7850 Seminar. Cr. 3**

Prereq: consent of instructor. Open only to design majors in B.A., B.S., or M.A. program. Development and practice of the research process and effective writing skills. (W)

**7990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: consent of instructor. Open only to design majors in B.A., B.S., or M.A. program. Individual projects. (F,W)

**7991 Advanced Workshop: Selected Topics. Cr. 2-4 (Max. 6)**

Open only to design majors in B.A., B.S., or M.A. program. Application of theoretical principles in selected areas of design and merchandising. Topics and prerequisites to be announced in Schedule of Classes. (B)

**7996 Research. Cr. 2-6 (Max. 6)**

Prereq: consent of advisor. Open only to design majors in B.A., B.S., or M.A. program. Emphasis on readings and research of latest trends in fashion design and merchandising. (Y)

**FIBERS (AFI)****5650 (AFI 3650) Weaving: Senior Project. (AFI 7650) Cr. 3-6 (Max. 12)**

Prereq: AFI 3650. Election of more than three credits per semester requires consent of instructor. Open only to students in the College of Fine, Performing and Communication Arts enrolled in B.S., B.A., B.F.A., M.A., or M.F.A. program. Directed project in weaving. Research and written evaluative statement required. Material Fee as indicated in the Schedule of Classes. (T)

**5660 (AFI 3660) Fabric Printing and Dyeing: Senior Project. (AFI 7660) Cr. 3-6 (Max. 12)**

Prereq: AFI 3660. Election of more than three credits per semester requires consent of instructor. Open only to students in the College of Fine, Performing and Communication Arts enrolled in B.S., B.A., B.F.A., M.A., or M.F.A. program. Extensive project or series of works determined by student; research and written statement. Material Fee as indicated in the Schedule of Classes. (T)

**5870 Directed Projects: Fibers. Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to students in the College of Fine, Performing and Communication Arts enrolled in B.S., B.A., B.F.A., M.A., or M.F.A. program. Individual problems. (F,W)

**7650 (AFI 3650) Graduate Problems in Weaving. (AFI 5650) Cr. 3-9 (Max. 24)**

Prereq: AFI 5650. Election of more than three credits per semester requires consent of instructor. Open only to students in M.A. or M.F.A. program. Advanced problems in weaving. Material Fee as indicated in the Schedule of Classes. (T)

**7660 (AFI 3660) Graduate Problems: Fabric Printing and Dyeing. (AFI 5660) Cr. 3-9 (Max. 24)**

Prereq: AFI 5660. Election of more than three credits per semester requires consent of instructor. Open only to students in M.A. or M.F.A. program. Individual problems in fibers. Material Fee as indicated in the Schedule of Classes. (T)

**8860 M.F.A. Studio: Fibers. Cr. 3-9**

Open only to art majors in M.F.A. program. Supervised creative work done in the major concentration. Material Fee as indicated in the Schedule of Classes. (F,W)

**INDUSTRIAL DESIGN (AID)****5300 Advanced Studio/Product. Cr. 3 (Max. 15)**

Prereq: AID 3300. Open only to art majors in B.A., B.F.A., or M.A. program. Advanced techniques in presentation of design solutions. Students build upon their ability to communicate two-dimensionally; introduction of digital manipulation and creation software. Material Fee as indicated in the Schedule of Classes.. (F,W)

**5310 (AID 3310) Advanced Presentation. Cr. 3 (Max. 9)**

Prereq: AID 3310. Open only to art majors in B.A., B.F.A., or M.A. program. 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. Material Fee as indicated in the Schedule of Classes.. (F)

**5330 3-D Modeling. Cr. 3 (Max. 6)**

Prereq: AID 3300. Open only to upper division art majors in B.A. or B.F.A. program, or art M.A. students. Principles of three-dimensional modeling. Surface development, rendering, and creation of virtual environments. Material Fee as indicated in the Schedule of Classes.. (F)

**5997 (WI) Senior Seminar. Cr. 3**

Prereq: senior standing in industrial design concentration. Open only to senior art majors in B.A. or B.F.A. program, or art M.A. students. 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. (B)

**6300 (AID 4600) Advanced Studio: Transportation. (AID 7300) Cr. 3 (Max. 9)**

Prereq: AID 3300. Open only to art majors in B.A. or B.F.A. program, or art M.A. students. Form and proportion studies. Development of sketch techniques for communicating the complex form of the automotive body. Taught by professional automotive designers. Material Fee as indicated in the Schedule of Classes. (F,W)

**6310 Advanced Studio/Exhibit. Cr. 3 (Max. 9)**

Prereq: AID 5300. Open only to art majors in B.A. or B.F.A. program, or art M.A. students. Advanced design concepts in exhibit design. Project planning, ideas of brand imaging, phenomenological notions of the spatial experience. Material Fee as indicated in the Schedule of Classes. (F)

**6320 History of Modern Design I. Cr. 3**

Open only to College of Fine, Performing and Communication Arts students enrolled in B.A., B.F.A., or M.A. program. Major design trends in America and Europe from mid-nineteenth century to World War I. Covers a broad spectrum of the applied arts. (F)

**6330 History of Modern Design II. Cr. 3**

Open only to College of Fine, Performing and Communication Arts students enrolled in B.A., B.F.A., or M.A. program. Major design trends in America and Europe from end of World War I through 1950s. Covers a broad spectrum of the applied arts. (W)

**7300 (AID 4600) Graduate Industrial Design. (AID 4300) (AID 6300) Cr. 3-9 (Max. 24)**

Prereq: AID 5300 or 6300. Election of more than three credits per semester requires consent of instructor. Open only to students in M.A. program. Individual problems in industrial design. Material Fee as indicated in the Schedule of Classes.. (F,W)

**INTERDISCIPLINARY ELECTRONIC ARTS (AIN)****5220 New Media Installation and Interactivity. Cr. 3**

Prereq: AIN 3220 or consent of instructor. Open only to students who have completed their freshman year. Application of interactive sensor systems for use in interface design, video installations and related new art media projects. Technical tuition supplemented by readings, discussions, research and presentations of key historical examples. Material Fee as indicated in the Schedule of Classes. (F)

**5550 Seminar: Digital Arts in Context. Cr. 2-3**

Prereq: consent of instructor. Forum to explore and discuss the historical and theoretical impact of digital technologies on the production and reception of art; addresses key issues within contemporary art through readings and screenings. Material Fee as given in Schedule of Classes. (Y)

**5830 Directed Projects in Digital Arts. Cr. 1-3**

Prereq: consent of instructor. Individual problems in electronic arts. Material Fee as indicated in the Schedule of Classes. (F,W)

**6230 (AIN 4230) Advanced Projects in Digital Arts. (AIN 7230) Cr. 3-6**

Prereq: AIN 4230. 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. Material Fee as indicated in the Schedule of Classes. (W)

**6250 Advanced Experimental 3D Animation. Cr. 3**

Prereq: AIN 4230. Workshop focusing on 3D animation and modeling techniques. Technical tuition supplemented by critiques and screenings. Material Fee as indicated in the Schedule of Classes. (Y)

**6830 Special Topics in Digital Arts. Cr. 2-6**

Prereq: AIN 2220, AIN 3220. In-depth specializations supplementing and building on digital arts courses. Topics may include: programming for artists; sound design and sonic arts. (F,W)

**7220 Graduate Studio: Computer/Video/Multimedia. Cr. 3**

Prereq: B.A. or B.F.A. degree. Open only to art majors in M.A. or M.F.A. program. Course for M.A. and M.F.A. students. Material Fee as indicated in the Schedule of Classes. (F,W)

**INTERIOR DESIGN (AIA)****5010 Furniture/Product Workshop. Cr. 3**

Prereq: AIA 1610, 2610, 5610; consent of instructor. Open only to art majors in B.A., B.F.A., or M.A. program. 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. Material Fee as indicated in the Schedule of Classes. (F)

**5610 Interior Materials and Systems. Cr. 3**

Open only to art majors in B.A., B.F.A., or M.A. program. Estimating, specifying, and the techniques used in the application of materials and systems used in interior design. Lectures, guest speakers, and field trips. Material Fee as indicated in the Schedule of Classes. (W)

**5620 Building Construction Systems in Architecture I. Cr. 3**

Prereq: AIA 2610, 3610. Open only to art majors in B.A., B.F.A., or M.A. program. 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. Material Fee as indicated in the Schedule of Classes. (F)

**5630 Interior Lighting Design and Application. Cr. 3**

Prereq: AIA 3610, 4610. Open only to art majors in B.A., B.F.A., or M.A. program. 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. Material Fee as indicated in the Schedule of Classes. (W)

**5640 Building Construction Systems in Architecture II. Cr. 3**

Prereq: AIA 2600, 4600, 4610, 5620. Open only to interior design majors. 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. Material Fee as indicated in the Schedule of Classes. (W)

**5660 Supervised Field Experience. Cr. 3**

Prereq: consent of program advisor. Open only to art majors in B.A., B.F.A., or M.A. program. Supervised field study experience designed to correlate classroom theory with professional practice. Material Fee announced in Schedule of Classes. (T)

**5991 Directed Projects: Interior Design. Cr. 3-6 (Max. 9)**

Prereq: consent of program coordinator. Open only to art majors in B.A., B.F.A., or M.A. program. Individual problems. Material Fee announced in Schedule of Classes. (F,W)

**5997 (WI) Senior Seminar. Cr. 3**

Prereq: consent of instructor. Open only to senior art majors in B.A. or B.F.A. program, or art majors in M.A. program. Investigation of designers, styles, and periods of interior design through charettes and documentation. Resume and portfolio development and review; writing of intensive research paper. Material Fee announced in Schedule of Classes. (W)

**6610 Interior Design Studio IV. Cr. 3**

Prereq: AIA 4610, 5640. Open only to art majors in B.A., B.F.A., or M.A. program. 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. Material Fee as indicated in the Schedule of Classes. (W)

**6650 Business Practicum. Cr. 2**

Prereq: AIA 4610. Open only to art majors in B.A., B.F.A., or M.A. program. Examination of different types of business formations and their characteristics; professional practices and procedures, professional ethics, contemporary topics in interior design practice. Material Fee announced in Schedule of Classes. (F)

**7850 Graduate Seminar: Contemporary Designers. Cr. 2**

Prereq: consent of instructor. Open only to M.A. students. Topics to be announced in Schedule of Classes. (F,W)

**7990 Directed Study. Cr. 1-4**

Prereq: consent of advisor, instructor, and graduate officer. Open only to M.A. students. Material Fee announced in Schedule of Classes. (Y)

## METALSMITHING (AME)

**5600 (AME 3600) Advanced Jewelry and Metalsmithing. (AME 7600) Cr. 3-6 (Max. 24)**

Prereq: AME 3601. Election of more than three credits per semester requires consent of instructor. Open only to art or design and merchandising majors in B.A., B.F.A., M.A. or M.F.A. program. Intellectual and conceptual nature of student's artwork; discussion and analysis. Methods of criticism. Material Fee as indicated in the Schedule of Classes. (F,W)

**5860 Directed Projects: Metalsmithing. Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to art or design and merchandising majors in B.A., B.F.A., M.A. or M.F.A. program. Individual problems. (F,W)

**7600 (AME 3600) Graduate Study in Metal Arts. (AME 5600) Cr. 3-9 (Max. 24)**

Prereq: AME 5600. Election of more than three credits per semester requires consent of instructor. Open only to art or design and merchandising majors in M.A. or M.F.A. program. Individual problems. Directed study and project development in metal arts. Material Fee as indicated in the Schedule of Classes. (F,W)

**8860 M.F.A. Studio: Metal Arts. Cr. 6-9 (Max. 36)**

Prereq: Open only to M.F.A. students with a graduate concentration in metals. Open only to art majors in M.F.A. program. Extended problems in metalsmithing; individual research with eighteen to twenty-seven hours of laboratory per week. (F,W)

## PAINTING (APA)

**5000 (APA 3000) Oil Painting IV. (APA 4000) Cr. 3-6 (Max. 18)**

Prereq: APA 4000. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors or graduate students in M.A. or M.F.A. in art. Individual development in painting. Material Fee as indicated in the Schedule of Classes. (T)

**5060 (ADR 5060) Advanced Concepts in Drawing and Painting. (APA 7060) Cr. 3-6 (Max. 15)**

Prereq: ADR 3070 or APA 4000. Open only to upper division art majors in B.A., B.S., B.F.A. program, or M.A. or M.F.A. art majors. Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Material Fee as indicated in the Schedule of Classes. (Y)

**5100 (APA 5100) Contexts of Studio Practice. (ADR 5100) Cr. 3 (Max. 6)**

Open only to art majors B.A., B.S., B.F.A. program, or M.A. or M.F.A. art majors. 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. (Y)

**5110 (APA 2110) Watercolor Painting III. (APA 3110) Cr. 3-6 (Max. 18)**

Prereq: APA 3110. Election of more than three credits per semester requires consent of instructor. Open only to upper division undergraduate art majors, and graduate majors in M.A. or M.F.A. programs. Individual work in transparent and/or opaque water-based media. Material Fee as indicated in the Schedule of Classes. (F,W)

**5130 (APA 3130) Figure Painting Advanced: Water Media. (APA 7130) Cr. 3-6 (Max. 12)**

Prereq: APA 3130. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors B.A., B.S., B.F.A. program, or M.A. or M.F.A. art majors. Individual development in water media based on observation of human figure. Material Fee as indicated in the Schedule of Classes. (Y)

**5140 (APA 3140) Figure Painting Advanced: Oil and Other Media. (APA 7140) Cr. 3-6 (Max. 12)**

Prereq: APA 3140. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors B.A., B.S., B.F.A. program, or M.A. or M.F.A. art majors. Individual development based on the human figure using any appropriate medium. Material Fee as indicated in the Schedule of Classes. (Y)

**5810 Directed Projects: Painting. Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to art majors B.A., B.S., B.F.A. program, or M.A. or M.F.A. art majors. Self-directed work in consultation with graduate faculty on an arranged basis. (F,W)

**7000 Graduate Oil Painting. Cr. 3-9 (Max. 18)**

Prereq: APA 5000. Election of more than three credits per semester requires consent of instructor. Open only to graduate art majors in M.A. or M.F.A. program. Individual work in oil painting, or other material as appropriate. Material Fee as indicated in the Schedule of Classes. (T)

**7060 (ADR 5060) Graduate Problems in Drawing and Painting. (APA 5060) Cr. 3-9 (Max. 15)**

Open only to art majors in M.A. or M.F.A. program. Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Material Fee as indicated in the Schedule of Classes. (Y)

**7080 (APA 5080) Landscape Painting. Cr. 3-6 (Max. 15)**

Open only to graduate art majors. Prereq: APA 2000 or former APA 2100. Election of more than three credits per term requires consent of instructor. 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. Material Fee as given in Schedule of Classes. (S)

**7110 Graduate Watercolor Painting. Cr. 3-9 (Max. 18)**

Prereq: APA 5110. Election of more than three credits per semester requires consent of instructor. Open only to graduate art majors in M.A. or M.F.A. program. Individual work in transparent and/or opaque water-based media. Material Fee as indicated in the Schedule of Classes. (F,W)

**7130 (APA 3130) Graduate Problems in Figure Painting: Water Media. (APA 5130) Cr. 3-9 (Max. 18)**

Prereq: APA 5130. Election of more than three credits per semester requires consent of instructor. Open only to art majors in M.A. or M.F.A. program. Individual development of images based on the human figure. Material Fee as indicated in the Schedule of Classes. (Y)

**7140 (APA 3140) Graduate Problems in Figure Painting: Oil Media. (APA 5140) Cr. 3-9 (Max. 18)**

Prereq: APA 5140. Election of more than three credits per semester requires consent of instructor. Open only to art majors in M.A. or M.F.A. program. Individual development of images based on the human figure. Material Fee as indicated in the Schedule of Classes. (Y)

**8810 M.F.A. Studio: Painting. Cr. 3-9 (Max. 36)**

Open only to art majors in M.F.A. program. Extended self-directed work in painting (eighteen to twenty-seven hours per week). Consultation with appropriate graduate faculty on an arranged basis. (F,W)

## PHOTOGRAPHY (APH)

**5420 (APH 4420) Advanced View Camera. Cr. 3-6 (Max. 9)**

Prereq: APH 4420. Election of more than three credits per semester requires consent of instructor. Open only to art majors in B.A., B.F.A., M.A. or M.F.A. program. Refinement of view camera techniques and advanced lighting techniques. Material Fee as indicated in the Schedule of Classes. (Y)

**5430 (APH 4430) Digital Color Photography II. Cr. 3-6 (Max. 9)**

Prereq: APH 4430. Election of more than three credits per semester requires consent of instructor. Open only to art majors in B.A., B.F.A., M.A. or M.F.A. program. Use of color as an expressive medium through a variety of lighting situations. Use of digital still cameras. Advanced adjustment and printing techniques. Material Fee as indicated in the Schedule of Classes. (Y)

**5440 Experimental Photography. Cr. 3-6 (Max. 9)**

Prereq: APH 3410. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Work in non-traditional processes including image and emulsion transfer, hand-applied emulsions, laser copy and xerographic transfer. Material Fee as indicated in the Schedule of Classes. (B)

**5450 Selected Topics in Photography. Cr. 3-6 (Max. 9)**

Prereq: APH 4410. Election of more than three credits per semester requires consent of instructor. Open only to art majors in B.A., B.F.A., M.A. or M.F.A. program. Topics to be announced in Schedule of Classes. Material Fee as indicated in the Schedule of Classes. (Y)

**5850 Directed Projects: Photography.  
Cr. 3-9 (Undergrad. max. 9; grad. max. 30)**

Prereq: consent of instructor. Open only to art majors in B.A., B.F.A., M.A. or M.F.A. program. Individual problems. (F,W)

**5860 Social Documentary: Community, Compassion, and Activism. Cr. 3-6 (Undergrad. max. 9; grad. max. 30)**

Prereq: APH 2400. Photographic documentation applied to social cause, community representation, and visual/multicultural critical theory. Material Fee as indicated in the Schedule of Classes. (I)

**7400 Graduate Photography. Cr. 3-9 (Max. 24)**

Election of more than three credits per semester requires consent of instructor. Open only to graduate art students in M.A. or M.F.A. program. Individual problems in advanced photography. Material Fee announced in Schedule of Classes. (F,W)

**8850 M.F.A. Studio: Photography. Cr. 3-9 (Max. 36)**

Open only to graduate art students in M.F.A. program. Extended problems in photography; individual research with eighteen to twenty-seven hours of laboratory per week. Material Fee announced in Schedule of Classes. (F,W)

## PRINTMAKING (APR)

**5470 (APR 3470) Advanced Photo Processes for Printmaking.  
Cr. 3-6**

Prereq: consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Processes for lithography, intaglio, and serigraphy. Material Fee as indicated in the Schedule of Classes. (W)

**5480 (APR 5480) Advanced Intaglio Printmaking. (APR 7480)  
Cr. 3-6 (Max. 21)**

Prereq: APR 3480. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Advanced problems in intaglio. Multiplate and rollup color printing. Photo intaglio techniques, experimental media. Material Fee as indicated in the Schedule of Classes. (F,W)

**5490 (APR 3490) Advanced Lithography. (APR 7490)  
Cr. 3-6 (Max. 21)**

Prereq: APR 3490. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Advanced problems in lithography. Black and white, multicolor, transfer methods. Material Fee as indicated in the Schedule of Classes. (F,W)

**5500 (APR 3500) Advanced Serigraphy. (APR 7500)  
Cr. 3-6 (Max. 15)**

Prereq: APR 3500. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Advanced problems in screen printing. Photo transfer, multi-media approaches. Material Fee as indicated in the Schedule of Classes. (Y)

**5510 (APR 3510) Advanced Relief and Experimental Printmaking. (APR 7510) Cr. 3-6 (Max. 21)**

Prereq: APR 3500 and 5490. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Traditional relief methods: woodcut, wood engraving, linocut; also monoprint and monotype, constructed prints, other experimental approaches. Material Fee as indicated in the Schedule of Classes. (S)

**5690 (APR 2690) Advanced Papermaking. Cr. 3-6 (Max. 9)**

Prereq: APR 2690. Election of more than three credits per semester requires written consent of instructor. Advanced problems involving coloring, sheet making, sizing and sculptural use of the medium. (I)

**5840 Directed Projects: Printmaking.  
Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to art majors in B.A., B.F.A., M.A. or M.F.A. program. Individual problems. (F,W)

**7470 (APR 3470) Graduate Photo Processes for Printmaking.  
Cr. 3-6**

Prereq: consent of instructor. Open only to art majors in M.A. or M.F.A. program. Exploration of non-traditional formats and print surfaces. Editioning optional. Material Fee as indicated in the Schedule of Classes. (F)

**7480 (APR 5480) Graduate Intaglio. Cr. 3-9 (Max. 21)**

Prereq: APR 3480. Election of more than three credits per semester requires consent of instructor. Open only to art majors in M.A. or M.F.A. program. Advanced problems in intaglio. Multiplate and rollup color printing. Photo intaglio techniques, experimental media. Material Fee as indicated in the Schedule of Classes. (F,W)

**7490 (APR 3490) Graduate Lithography. (APR 5490)  
Cr. 3-9 (Max. 21)**

Election of more than three credits per semester requires consent of instructor. Open only to art majors in M.A. or M.F.A. program. Advanced work in lithography. Material Fee as indicated in the Schedule of Classes. (F,W)

**7500 (APR 3500) Graduate Serigraphy. (APR 5500) Cr. 3-9**

Election of more than 3 credits per semester requires consent of instructor. Open only to art majors in M.A. or M.F.A. program.



Advanced work in serigraphy. Material Fee as indicated in the Schedule of Classes. (I)

**7510 (APR 3510) Graduate Relief and Experimental Printmaking. (APR 5510) Cr. 3-6**

Prereq: graduate standing in art. Open only to art majors in M.F.A. program. Traditional relief methods: woodcut, wood engraving, linocut; also monoprint and monotype, constructed prints, other experimental approaches. (Y)

**8840 M.F.A. Studio: Printmaking. Cr. 3-9 (Max. 36)**

Open only to art majors in M.F.A. program. Extended problems in printmaking; individual research with eighteen to twenty-seven hours of laboratory per week. Material Fee as given in Schedule of Classes. (F,W)

## SCULPTURE (ASL)

**5150 (ASL 3150) Advanced Sculpture. (ASL 7150) Cr. 3-9 (Max. 12)**

Prereq: ASL 2150, 3150, 3170, 3190. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Development of personal and professional body of work. Discussions, lectures, assignments. Material Fee as indicated in the Schedule of Classes. (T)

**5165 Mixed-Media and Installation. Cr. 3 (Max. 6)**

Prereq: ASL 2150. Creating discrete art objects, multiple forms, and expressive spatial projects in a considered environment. Material Fee as indicated in the Schedule of Classes. (F)

**5170 (ASL 3170) Figurative Sculpture II. Cr. 3-6 (Max. 18)**

Prereq: ADR 3090 and ASL 3170. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Emphasis on advanced and self-directed problems in figurative sculpture. Material Fee as indicated in the Schedule of Classes. (Y)

**5180 Sculpture: Advanced Technology. Cr. 3-6 (Max. 18)**

Prereq: ASL 5170. Election of more than three credits per semester requires consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. One major project which explores the application of non-traditional materials and technologies: research, industrial liaisons, equipment. Material Fee as indicated in the Schedule of Classes. (I)

**5190 Sculpture Foundry II. Cr. 3-6 (Max. 9)**

Prereq: ASL 3190. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Development of ideas and skills using either casting or fabrication or both. Material Fee as indicated in the Schedule of Classes. (Y)

**5810 Special Topics in Sculpture. Cr. 1-6 (Max. 9)**

Open only to sculpture majors. Prereq: ASL 2150, 3150, 3170, and 3190. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Topics to be announced in Schedule of Classes. Material Fee as indicated in the Schedule of Classes. (Y)

**5820 Directed Projects.  
Cr. 3-6 (Undergrad. max. 15; grad. max. 30)**

Prereq: consent of instructor. Open only to upper division art majors in B.A. or B.F.A. program, or art majors in M.A. or M.F.A. program. Independent projects done in consultation with instructor. Material Fee as indicated in the Schedule of Classes. (F,W)

**7150 (ASL 3150) Graduate Sculpture. (ASL 5150)  
Cr. 3-9 (Max. 12)**

Prereq: graduate standing. Open only to art majors in M.A. or M.F.A. program. Graduate-level problems. Material Fee as indicated in the Schedule of Classes. (T)

**8820 M.F.A. Studio: Sculpture. Cr. 3-9 (Max. 36)**

Open only to art majors in M.F.A. program. Extended problems in sculpture; individual research with eighteen to twenty-seven hours of laboratory per week. Material Fee as indicated in the Schedule of Classes. (F,W)

## ART HISTORY (A H)

**5010 Alternative Media. Cr. 3**

Exploration of media not normally dealt with in courses on modernism: such as video, performance, installations, and computer technologies. (I)

**5090 (WI) Theory and Methods of Art Historical Research.  
Cr. 3**

Prereq: consent of instructor. Introduction to the methods of research in art history. History of the discipline's methodology examined through selective readings. (I)

**5150 Islamic Arts of Africa: Muslim Identities at the Crossroads. Cr. 3**

Prereq: A H 1110 and A H 1120. Focus on histories of cultural exchange between different societies within Africa and beyond. Relationship between social identity, ideas of religiosity and cultural self-expression. Students taking course for graduate credit must write a more substantial research paper in consultation with the instructor. (W)

**5210 Hellenistic Art. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120 or consent of instructor. Sculpture, painting and architecture of the Greek world from Alexander the Great to Cleopatra. (I)

**5250 Ancient Rome. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120 or consent of instructor. Development of Rome into an imperial capital. Design, function and political significance of public monuments in the city. (I)

**5260 Classical Greek Art. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120 or consent of instructor. Greek painting, sculpture and architecture of the fifth and fourth centuries B.C. Emphasis on decorative programs of temples and cult statues. (I)

**5270 Roman Painting and Sculpture. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120 or consent of instructor. Painting and sculpture of the Roman Republic and Empire, and their cultural context. (Y)

**5305 (A H 3300) History and Urban Development of Rome.  
Cr. 3**

Monumental public and private spaces of ancient Rome, from their development through their transformations in the Middle Ages and the Renaissance to the modern age. The idea of the city as an imperial capital and the perpetuation of that ideal in art and architecture. Taught in Rome. (B)

**5310 The Ancient City of Athens. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120 or consent of instructor. The history of Athens as an urban center in antiquity. Public monuments, buildings and landscape as reflecting the city's aspirations and fortunes. (I)

**5320 Neoclassical Architecture in Britain. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120 or consent of instructor. Interest in Classical antiquity as shown in English architecture of the seventeenth century. Domestic, state and religious architecture, urban planning, garden design and landscape architecture, in contexts of political and social developments. (I)

**5410 Gothic Art and Architecture. Cr. 3**

Open to freshman students with consent of instructor. Prereq: A H 1110 and A H 1120; consent of instructor. Gothic art and architecture in Western Europe from 1140 to 1400, including manuscripts, metal-work, stained glass, as well as the architectural context in which they were used. (I)

**5450 Art and Architecture in the High Middle Ages. Cr. 3**

Prereq: A H 1110 and A H 1120. Art and architecture in western Europe, 1050-1250. Development of Romanesque and Gothic styles in architecture, painting, and sculpture. (I)

**5500 Early Renaissance in Italy. Cr. 3**

Prereq: A H 1110 and A H 1120. 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. (B)

**5510 High Renaissance and Mannerism in Italy. Cr. 3**

Prereq: A H 1110 and A H 1120. The art of Leonardo, Raphael, Michelangelo, Titian, and their contemporaries. (I)

**5520 Art of Renaissance Venice. Cr. 3**

Prereq: A H 1120 or A H 1110. Art of fifteenth and sixteenth century Venice considered in its socio-political milieu. (B)

**5530 Northern European Painting in the Fourteenth and Fifteenth Centuries. Cr. 3**

Prereq: A H 1110 and A H 1120. Northern painting from its sources in the Franco-Flemish manuscript tradition and Bohemian schools to the great masters of the fifteenth century. (B)

**5550 Northern Renaissance Art. Cr. 3**

Prereq: A H 1110 and A H 1120. Art of Germany and the Netherlands executed between 1400 and 1570. (B)

**5600 Baroque Art in Italy. Cr. 3**

Prereq: A H 1110 and A H 1120. Art of late sixteenth and seventeenth century Italy in its socio-political milieu. (B)

**5610 Baroque Art in the Netherlands. Cr. 3**

Prereq: A H 1120 or A H 1110. Seventeenth-century art in the Netherlands in context of its socio-political milieu. (I)

**5700 Nineteenth Century European Painting. Cr. 3**

Prereq: A H 1110, 1120. Major styles, developments and masters. (B)

**5710 Trends in Nineteenth Century Art. Cr. 3**

Prereq: A H 1110 and A H 1120. Topics to be announced in Schedule of Classes. (B)

**5715 Modernism: Nineteenth and Twentieth Centuries. Cr. 3**

Prereq: A H 1110, 1120. 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. (B)

**5720 Twentieth Century Art. Cr. 3**

Prereq: A H 1110, 1120. European and American paintings, sculpture, and new media surveyed from 1900 to present. (B)

**5735 Art 1900-1945. Cr. 3**

Prereq: A H 1110 and A H 1120. European and American avant-garde art, Dada and Surrealism, the interwar period, and Abstract Expressionism. (B)

**5745 Art Since 1945. Cr. 3**

Prereq: A H 1110 and A H 1120. European and American art from the postwar period through movements including conceptualism, minimalism, and post-modernism. (B)

**5770 Paris in the Nineteenth Century. Cr. 3**

Prereq: A H 1120. Social and economic change in nineteenth century Paris; impact on art from Romantics to Post-Impressionists. Reading in major works of literature and history. Dawn of modernism in painting. (B)

**5780 Topics in Twentieth-Century Art. Cr. 3-6 (Max. 9)**

Election of more than three credits requires consent of instructor. Prereq: A H 1110 and A H 1120. Topics to be announced in Schedule of Classes. (Y)

**5820 Pre-Columbian Art of South and Central America. Cr. 3**

Prereq: A H 1110 and A H 1120. Open only to art history or art majors. Lecture-survey of art and architecture produced by the Pre-Columbian civilizations of Peru, Central America and Mexico, including the traditions of Chavin, Tiahuanaco, Inca, Maya, Olmec, Teotihuacan, Toltec and Aztec. (B)

**5855 Museum Practicum. Cr. 3**

Prereq: A H 1110, A H 1120; consent of instructor. 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. (B)

**5865 Seminar in Museum Research. Cr. 3**

Prereq: A H 1110, A H 1120; consent of instructor. Art historical research methods applied to work in the Detroit Institute of Arts. Topic to be announced in Schedule of Classes. (I)

**5990 Directed Study. Cr. 1-3**

Prereq: consent of instructor. Open only to art history majors in B.A. or M.A. program. Supervised advanced reading and research in the history of art. (F,W)

**5997 Seminar. Cr. 3**

Prereq: junior standing or above; A H 1110 and A H 1120. Open only to art history or art majors in B.A., B.F.A., M.A. or M.F.A. program. 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. (Y)

**6730 Contemporary Theory and the Visual Arts. Cr. 3**

Undergrad. prereq: consent of instructor. Open only to art history or art majors in B.A., B.F.A., M.A. or M.F.A. program. Methodological application of post-structuralist critical theory to the study of art and art history. (Y)

**7200 Seminar in Greek and Roman Art. Cr. 3-6 (Max. 9)**

Election of more than three credits requires consent of instructor. Open only to art history majors in M.A. program. Topics to be announced in Schedule of Classes. (B)

**7300 Seminar in Medieval Art. Cr. 3-6 (Max. 9)**

Election of more than three credits per semester requires consent of instructor. Open only to art history majors in M.A. program. Topics to be announced in Schedule of Classes. (B)

**7500 Seminar in Renaissance Art. Cr. 3-6 (Max. 9)**

Election of more than three credits per semester requires consent of instructor. Open only to art history majors in M.A. program. Topics to be announced in Schedule of Classes. (Y)

**7700 Seminar in Modern Art. Cr. 3-6 (Max. 9)**

Election of more than three credits per semester requires consent of instructor. Open only to art history majors in M.A. program. Topics to be announced in Schedule of Classes. (F,W)

**7999 Master's Essay Direction. Cr. 1-3**  
Open only to art history majors in M.A. program. (F,W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**  
Open only to art history master's candidates in M.A. program. (F,W)

## ART COLLOQUIA, SEMINARS, and SPECIAL CLASSES (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. (Y)

**7998 Master of Arts Seminar. Cr. 2**  
Open only to art majors in M.A. program. Directed reading, research, bibliography. Offered fall semester only. (F)

**7999 Master's Essay Direction. Cr. 1-3**  
Open only to art master's candidates in M.A. program. (F,W)

**8700 Master of Fine Arts Projects. Cr. 3**  
Open only to art majors in M.F.A. program. Execution of specific advanced projects as determined by advisor and M.F.A. candidate's advisory committee. (F,W)

**8997 Master of Fine Arts Seminar I. Cr. 3**  
Open only to majors in M.F.A. program. Concepts of art; contemporary art problems. (F)

**8998 Master of Fine Arts Seminar II. Cr. 3-4**  
Open only to majors in M.F.A. program. Concepts of art; contemporary art problems. (F)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**  
Open only to art history master's candidates in M.A. program. (F,W)



# Communication

*Office:* 585 Manoogian Hall; 313-577-2943

*Interim Chairperson:* Loreleigh Keashly

*Academic Services Officer:* Victoria Dallas

*Web:* <http://www.comm.wayne.edu>

## *Professors*

Benjamin Burns, Edward J. Pappas (Emeritus), Raymond S. Ross (Emeritus), Matthew W. Seeger, George W. Ziegelmueller (Distinguished Emeritus)

## *Associate Professors*

Mary M. Garrett, Loreleigh Keashly, Patricia McCormick, Hayg H. Oshagan, Pradeep Sopory, John W. Spalding (Emeritus)

## *Assistant Professors*

Colin Baker, James L. Cherney, Kelly Donnellan, Katheryn C. Maguire, Bryan McCann, Julie Novak, Donyale R. Padgett, Kimmerly Piper-Aiken, Marc A. Ruiz, Fred Vultee, William Wartens (Research), Kelly Young

## *Lecturers*

Juanita Anderson, Jane Fitzgibbon, Jack Lessenberry, Karen McDevitt, Alicia Nails, Michele (Shelly) A. Najor, Katie Rasmussen, Ronald J. Stevenson, Denise Vultee

## Graduate Degrees and Certificates

*MASTER OF ARTS with a major in Communication and emphases in communication studies; public relations and organizational communication; media arts; media studies; and journalism*

*MASTER OF ARTS IN DISPUTE RESOLUTION*

*Joint JURIS DOCTOR / MASTER OF ARTS in Dispute Resolution*

*GRADUATE CERTIFICATE in Dispute Resolution*

*GRADUATE CERTIFICATE in Health Communication*

*GRADUATE CERTIFICATE in Communication and New Media*

*DOCTOR OF PHILOSOPHY with a major in Communication.*

The Department of Communication, in the College of Fine, Performing, and Communication Arts, offers graduate study leading to master's and doctoral degrees. The Department includes about twenty-six tenured and tenure-track faculty members with strong backgrounds in both scholarly and professional approaches to communication. The Department has about 750 undergraduate majors and 200 graduate students. Approximately twenty-five graduate assistantships are offered each year to doctoral students.

The Department and faculty offices are in Manoogian Hall, located near the intersection of the John C. Lodge Freeway and Warren Avenue, in the heart of Detroit's Cultural Center. There are two television production facilities associated with the Department: 1) the Midtown Studio (developed in partnership with Detroit Public Television, Channel 56) located on the main floor of 5057 Woodward and 2) Old Main studio located in the Old Main building, at the intersection of Warren and Cass Avenues. Most graduate courses are offered in Manoogian Hall, in the evening.

## Philosophy

Communication is a human activity in which ideas, information, and perceptions are shared. The study of human communication involves the theory, research, and practice of human interaction among indi-

viduals, groups, institutions, and cultures, using quantitative, qualitative, rhetorical, and critical approaches.

The graduate program in communication is designed to establish and maintain high standards of scholarly research and creative/professional activity, while providing excellence in academic instruction at both the theoretical and applied levels. The graduate program encompasses the full range of empirical, critical, and creative approaches, in which each student is focused through a personal Plan of Work.

Alumni of the program are skilled researchers, practitioners, critical consumers, and thoughtful observers of communication processes. While many serve as recognized scholars and educators throughout the country and world, others occupy responsible positions as communication professionals in business, government, and industry.

The research interests and orientation of the faculty are diverse, and faculty and graduate students have written extensively on rhetorical theory and criticism, critical and cultural studies, media studies and effects, interpersonal communication, organizational communication, public relations, health and risk communication, and dispute resolution. The graduate program is deeply committed to research and scholarship on the interrelations of theory, practice, research, experience, strategy, and ethics.

## Master of Arts with a Major in Communication

The Department offers the master's degree with emphases in the following areas: communication studies, public relations and organizational communication, media arts, media studies, and journalism.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Admission to the M.A. program is competitive and is based on an applicant's entire academic record; the following requirements are minimum standards for consideration and do not guarantee admission. The Department requires that the applicant have a B.A. or B.S. in communication or a related field with a minimum 3.2 ('B'=3.0) grade point average (g.p.a.) for the upper-division (the last sixty semester credits) of coursework and a minimum of fifteen semester credits in the area of specialization. Applicants with a g.p.a. below 3.2 for the last sixty semester credits of coursework may submit Graduate Record Examination (GRE) scores as additional evidence of academic ability. To be considered, applicants must also submit a statement of academic interest and professional goals (reasons for interest in pursuing the degree), and a sample of written work (such as a research paper or a professional/creative project). Questions regarding the admission requirements should be addressed to the Director of Graduate Studies, Department of Communication, 585 Manoogian Hall, Wayne State University, Detroit, MI 48201. In some instances a student having fewer than fifteen semester credits in communication coursework may be admitted as a post-baccalaureate student until such time as sufficient background for graduate study is demonstrated.

Applicants should complete the online Application for Graduate Admission form, which includes a non-refundable \$50.00 application fee (same fee applies to international students) and official transcripts from each college and university previously attended. Questions regarding these should be addressed to the Office of Graduate Admissions, Wayne State University, Detroit MI 48202. International student applicants are also required to submit a Test of English as a Foreign Language (TOEFL) score of 600, or 250 on the computer-based test, or 100 on the internet based test.

M.A. applicants are admitted for the fall and the spring semesters. Deadline date for application materials for fall semester admission is August 1; and for the spring semester it is April 1.

**DEGREE REQUIREMENTS:** The Master of Arts degree is offered by this Department under the following options:

**Plan A:** At least thirty-two credits, including an eight credit thesis.

**Plan B:** At least thirty-two credits, including a three credit essay.

**Plan C:** Thirty-three to forty-eight credits in course work.

The program of study should be planned as early as possible with the student's advisor. Candidacy must be established by filing an approved Plan of Work by the time twelve credits have been earned. COM 7000 must be included in the Plan of Work and must be taken during the first semester of coursework. All students must complete COM 7000 with a grade of 'B' or better in order to continue in the program.

All course work must be completed in accordance with the academic procedures of the College of Fine, Performing and Communication Arts and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 207.

Essays or theses may be chosen when allowed as an option in the concentration, after consultation with the advisor. A final oral examination may be held for those writing theses.

Courses that relate to a student's particular area of interest are selected in consultation with the advisor and are formalized by filing the Plan of Work. The Plan of Work must be approved by the advisor and the Director of Graduate Studies.

### CONCENTRATION REQUIREMENTS

**Public Relations and Organizational Communication:** This professional degree emphasizes the theory and application of communication in a variety of contexts. These include working in public relations, employee relations, media relations, public affairs, issue and crisis management, technical and employee communication, and related activities in business, industry, non-profit, and governmental settings. Requirements include:

- COM 6250 -- Organizational Communication: Cr. 3
- COM 7000 -- Introduction to M.A. Studies in Communication: Cr. 3
- COM 7140 -- Public Relations Campaigns & Issues Mgt.: Cr. 3
- COM 7210 -- New Media and Strategic Communication: Cr. 3

At least two of the following:

- COM 6100 -- Speech Writing: Cr. 3
- COM 6200 -- Theories of Small Group Processes: Cr. 3
- COM 7150 -- Micro-Level Organizational Communication: Cr. 3
- COM 7160 -- Crisis Communication: Cr. 3
- COM 7165 -- Communication and Issue Management: Cr. 3
- COM 7240 -- Communication Consulting and Training: Cr. 3
- COM 7410 -- Communication Theory: Cr. 3

At least one of the following Research Methods Courses:

- COM 7250 -- Rhetorical Criticism: Cr. 3
- COM 7260 -- Quantitative Research Methods in Comm.: Cr. 3
- COM 7360 -- Qualitative Research Methods in Comm.: Cr. 3

At least two additional courses from the following, chosen in consultation with advisor:

- COM 6180 -- Principles of Health Comm.: Cr. 3
- COM 6190 -- Internship: Cr. 1-3 (Max. 6)
- COM 6350 -- Communication, Culture and Conflict: Cr. 3
- COM 7110 -- Theory of Argument: Cr. 3
- COM 7120 -- Contemporary Political Campaigns: Cr. 3
- COM 7330 -- Advanced Desktop Publishing: Cr. 3
- COM 7340 -- Interviewing: Cr. 3
- COM 7580 -- Content Analysis: Cr. 3
- COM 8230 -- Ethnographic Methods for Comm. Research: Cr. 3
- Other COM 6/7000 level courses, with advisor's approval

At least one 3-4 credit course outside the Department numbered 6000 or above from another department such as Economics, English, Management, Marketing, Political Science, or Psychology, approved by advisor.

One of the following: (Plan C is highly recommended):

- Plan B: COM 7999 -- Master's Essay: Cr. 3
- Plan C: COM 7220 -- Professional Issues in Applied Comm.: Cr. 3

**Media Arts:** This professionally-oriented degree program emphasizes production and other creative activity, with some exposure to theory and research. The emphasis is designed for those currently working in mass media and those who wish to pursue a career in that industry. Requirements include:

- COM 5270 -- (WI) Screenwriting: Cr. 4 (Max. 8)
- COM 5380 -- Video Field Production Editing: Cr. 3
- COM 5400 -- Techniques of Film and Video Production: Cr. 4
- COM 7000 -- Introduction to M.A. Studies in Communication: Cr. 3

One of the following Theory Courses:

- COM 7520 -- Theories of Media Effects: Cr. 3
- COM 7530 -- Critical Mass Communication Theory: Cr. 3

One of the following Research Methods Courses:

- COM 6530 -- Audience Measurement & Survey Techniques: Cr. 3
- COM 7260 -- Quantitative Research Methods. in Comm.: Cr. 3
- COM 7510 -- Seminar in Mass Media Research: Cr. 3 (Max 9)
- COM 7580 -- Content Analysis: Cr. 3
- COM 7590 -- Seminar in Television Criticism: Cr. 3
- COM 7600 -- Media and Cultural Historiography: Cr. 3
- COM 7610 -- Feminist Media Theory and Criticism: Cr. 3

Two additional COM courses numbered 5000 or higher (appropriate to Media Arts concentration, selected in consultation with the advisor).

Additional elective courses to total a minimum of 35 credits; and one of the following plan A or B options:

**Plan B:** Three credits in COM 7999 and an approved essay, selected in consultation with the advisor.

or

**Plan C:** Appropriate course work as approved by the advisor and listed on the plan of work.

**Media Studies:** This academically-oriented master's degree program is for students interested in radio, television, film, or other mass communication or related phenomena. This emphasis is appropriate for students interested in areas such as media research, media effects, theory and criticism, film criticism, and writing about radio, television, or film. It is an appropriate preparatory degree for doctoral work. Requirements include:

- COM 7000 -- Introduction to M.A. Studies in Communication: Cr. 3

One of the following Theory Courses:

- COM 7520 -- Theories of Media Effects: Cr. 3
- COM 7530 -- Critical Mass Communication Theory: Cr. 3

One of the following Research Methods Courses:

- COM 6530 -- Audience Measurement & Survey Techniques: Cr. 3
- COM 7260 -- Quantitative Resch. Methods. in Comm.: Cr. 4
- COM 7510 -- Seminar in Mass Media Research: Cr. 3 (Max. 9)
- COM 7580 -- Content Analysis: Cr. 3
- COM 7590 -- Seminar in Television Criticism: Cr. 3
- COM 7600 -- Media and Cultural Historiography: Cr. 3
- COM 7610 -- Feminist Media Theory and Criticism: Cr. 3

Four additional COM courses numbered 5000 or higher (appropriate to Media Studies concentration)

One additional course numbered 7001 or higher

Additional elective courses to total a minimum of thirty-five credits; and one of the following plan options:

**Plan B:** Three credits in COM 7999 and an approved essay

or

**Plan C:** Appropriate course work as approved by the advisor and listed on the plan of work.

**Communication Studies:** The communication studies emphasis is designed for students with a general interest in the study of human communication. It is intended primarily for students preparing for doctoral study in communication. Requirements include:

- COM 7000 -- Introduction to M.A. Studies in Communication

A minimum of six courses, including one Methods (M) Course, preferably from any one of the following four tracks:

**RHETORICAL THEORY AND CRITICISM:**

- COM 6350 -- Communication, Culture, and Conflict: Cr. 3
- COM 7110 -- Theory of Argument: Cr. 3
- COM 7190 -- Classical Rhetorical Theory: Cr. 3
- COM 7200 (M) -- Rhetoric of Visual Culture: Cr.3
- COM 7250 (M) -- Rhetorical Criticism: Cr. 3
- COM 7300 (M) -- Feminist Rhetorical Criticism: Cr. 3
- COM 7310 -- Rhetoric & Contemp. Intellectual Developments: Cr. 3
- COM 7350 -- Rhetoric of Citizenship and National Identity: Cr. 3
- COM 8350 (M) -- Advanced Study in Rhetorical Criticism: Cr. 3

**INTERPERSONAL COMMUNICATION AND SOCIAL INFLUENCE:**

- COM 6180 -- Principles of Health Communication: Cr. 3
- COM 6270 -- New Media Theory: Cr. 3
- COM 6350 -- Communication, Culture, and Conflict: Cr. 3
- COM 7155 -- Theories of Interpersonal Communication: Cr. 3
- COM 7170 -- Health Communication: Cr. 3
- COM 7171 -- Theories and Research in Relational Comm.: Cr. 3
- COM 7260 (M) -- Quantitative Research Methods in Comm.: Cr. 3
- COM 7340 (M) -- Interviewing: Cr. 3
- COM 7370 -- Adv. Theories of Persuasion & Social Influence.: Cr. 3
- COM 7410 -- Communication Theory: Cr. 3
- COM 7580 (M) -- Content Analysis: Cr. 3
- COM 7680 -- Social Influence and Compliance-Gaining: Cr. 3
- COM 8170 -- Seminar in Interpersonal Communication: Cr. 3
- COM 8230 (M) -- Ethnographic Meth. for Comm. Research: Cr. 3
- D R 7100 -- Roots of Social Conflict: Cr. 3
- D R 7210 -- Concepts and Processes of Dispute Resolution I: Cr. 3

**SMALL GROUP AND ORGANIZATIONAL COMMUNICATION**

- COM 6180 -- Principles of Health Communication: Cr. 3
- COM 6200 -- Theories of Small Group Processes: Cr. 3
- COM 6250 -- Organizational Communication: Cr. 3
- COM 7140 -- Public Relations Campaigns: Cr. 3
- COM 7150 -- Micro-level Organizational Communication: Cr. 3
- COM 7160 -- Crisis Communication: Cr. 3
- COM 7165 -- Communication and Issue Management: Cr. 3
- COM 7170 -- Health Communication: Cr. 3
- COM 7240 -- Communication Consulting and Training: Cr. 3
- COM 7410 -- Communication Theory: Cr. 3
- D R 7210 -- Concepts and Processes of Dispute Resolution I: Cr. 3

**POLITICAL AND PUBLIC COMMUNICATION:**

- COM 6100 -- Speech Writing: Cr. 3
- COM 6350 -- Communication, Culture and Conflict: Cr. 3
- COM 7040 -- Language of Oppression: Cr. 3
- COM 7120 -- Contemporary Political Campaigns: Cr. 3
- COM 7130 -- Research in Social Movements: Cr. 3
- COM 7250 (M) -- Rhetorical Criticism: Cr. 3
- COM 7260 (M) -- Quantitative Research Methods in Comm.: Cr. 3
- COM 7700 -- Mass Media and Political Communication: Cr. 3
- D R 6120 -- Human Diversity and Human Conflict: Cr. 3
- D R 7100 -- Roots of Social Conflict: Cr. 3
- D R 7210 -- Concepts and Processes of Dispute Resolution I: Cr. 3

One of the following plan options:

**Plan A:** Eight credits in COM 8999 including an approved thesis and additional elective courses to total a minimum of thirty-two credits;

or

**Plan C** Additional elective courses to total 35-48 credits.

**Journalism:** The Journalism emphasis is intended for careers in news organizations, academic teaching and media management. The program is individually tailored and includes courses in print and broadcast management skills, organizational communication, Internet-based reporting and communication and cultural diversity issues. Requirements include:

- COM 5080 -- History and Law of American Journalism: Cr. 4
- COM 6280 -- Media and Diversity: Cr. 3
- COM 7000 -- Introduction to M.A. Studies in Communication: Cr. 3

One of the following Research Methods Courses:

- COM 6530 -- Audience Measurement & Survey Techniques: Cr. 3
- COM 7260 -- Quantitative Research Methods in Comm.: Cr. 3
- COM 7580 -- Content Analysis: Cr. 3
- COM 8230 -- Ethnographic Methods for Comm. Research: Cr. 3

One of the following Theory Courses:

- COM 7520 -- Theories of Media Effects: Cr. 3
- COM 7700 -- Mass Media and Political Communication: Cr. 3
- COM 7410 -- Communication Theory: Cr. 3

Five courses from the following, as may be appropriate for the concentration, selected in consultation with an advisor:

- COM 5250 -- Professional Issues: News Media Mgt.: Cr. 4
- COM 5300 -- Desktop Publishing: Cr. 4
- COM 5310 -- Investigative Reporting: Cr. 4
- COM 5381 -- TV News Reporting and Digital Editing: Cr. 4
- COM 5400 -- Techniques of Film/Video Production: Cr. 4
- COM 5410 -- Producer's Workshop: Cr. 4
- COM 5420 -- Director's Workshop: Cr. 4
- COM 5460 -- Magazine Writing: Cr. 3
- COM 5500 -- Publishing on the Internet: Cr. 3
- COM 5700 -- Political and Governmental Reporting: Cr. 4
- COM 6190 -- Internship: Cr. 1-3 (Max. 6)
- COM 6540 -- Media Operation and Management: Cr. 3
- COM 6560 -- Journalism and New Media: Cr. 3
- COM 7330 -- Advanced Desktop Publishing: Cr. 3

One elective from another department (e.g. Political Science, Anthropology, History, Sociology, Business or others), as may be appropriate for the concentration, selected in consultation with an advisor.

**Plan B:** Thirty-six credits (minimum) including three credits in COM 7999 and an approved essay.

**Plan C:** Thirty-six credits (minimum) of course work from the requirements listed above approved by the advisor and listed on the plan of work.

## Graduate Certificate in Dispute Resolution

Website: <http://www.comm.wayne.edu/madr.php>

The Graduate Certificate Program in Dispute Resolution is designed to provide professional study in the interdisciplinary field of dispute resolution for individuals holding or pursuing advanced degrees in other disciplines. The Program is administered by the Academic Director.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. In addition, at least a 3.0 g.p.a. in the upper division of undergraduate coursework is required. Eligibility for this program is limited to persons holding a graduate or advanced degree from an accredited educational institution or those actively pursuing such a degree at Wayne State University. Applicants must submit a personal statement of 200 words outlining their interest in the program and three letters of recommendation.

**CERTIFICATE REQUIREMENTS:** Students in the certificate program must complete a minimum of fifteen credits as outlined below and maintain a grade point average of at least 3.0. The Certificate allows maximum six credits to count toward both the Certificate and a relevant M.A. offered by this Department. Transfer of credit from other institutions may NOT be applied toward the credits required for the certificate. The Certificate Program must be completed within three years. The following courses are required:

- D R 7100 or D R 6120
  - Roots of Social Conflict: Cr. 3
  - Human Diversity and Human Conflict: Cr. 3

- D R 7210 -- (MGT 7780) Cpts. & Prcss. of Dispute Resolution I: Negotiation Theory & Practice: Cr. 3
- D R 7220 -- Cpts. & Prcss. of Dispute Resolution II: Neutral Intervention Theory & Practice: Cr. 3
- D R 7890 -- Seminar in Dispute Resolution: Cr. 3
- PCS 6100 -- Intro. to Graduate Peace and Security Studies: Cr. 3

## Graduate Certificate in Health Communication

The Graduate Certificate program in Health Communication is designed to provide research-based, professional study for graduate students interested in the role of communication in the health professions. The twelve-credit certificate focuses on components of health communication and their influence on individuals and communities as well as on knowledge creation and research translation and publication. The program emphasizes the role of theory, methods, and strategies in developing messages designed to improve health outcomes for individuals and communities. The Certificate provides both depth in the study of health communication and breadth through the inclusion of a set of elective health-related courses in Anthropology, Family Medicine and Nursing. The program is sufficiently flexible to accommodate students with broad interests and diverse backgrounds.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, at least a 3.0 g.p.a. in the upper division of undergraduate coursework and a personal statement of one-two pages regarding interest in the program and career goals are required.

**Certificate Requirements:** Twelve credits in the program as outlined below including a required three-credit communication course, six credits of electives and a three-credit elective health-related course. The Certificate allows maximum six credits to count toward both the Certificate and a relevant M.A. offered by the Department. Courses must be completed with a minimum grade point average of 3.0 or better, and must be completed within three years of the enrollment. Transfer of credit from other institutions may NOT be applied toward the credits required for the certificate. All course work must be completed in accordance with the academic procedures of the College of Fine, Performing and Communication Arts and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 207 and 36.

One required course:

- COM 6180 -- Principles of Health Communication: Cr. 3

Two courses from the following:

- COM 5130 -- Communication and Social Marketing: Cr. 3
- COM 7150 -- Micro-Level Organizational Communication: Cr. 3
- COM 7170 -- Health Communication: Cr. 3
- COM 7370 -- Adv. Theory of Persuasion & Social. Influence: Cr. 3
- COM 7010 -- Special Topics: Cr. 3

One course from the following (or one other course approved by the advisor):

- ANT 5400 -- Anthropology of Health and Illness: Cr. 3
- COM 6190 -- Internship: Cr. 3
- FPH 7320 -- Social Basis of Health & Health Care: Cr. 3

## Graduate Certificate in Communication and New Media

The Communication and New Media Graduate Certificate emphasizes theory, production, and application of new media technology. The program reflects developments in communication, computer, and telecommunications technologies. Students completing the Certificate will be exposed to and have a basic understanding of the theoretical and applied aspects of new media and communication. Competencies achieved will include, but are not limited to:

- 1) Awareness of trends toward new media convergence and communication theories;
- 2) Knowledge of new media effects and audiences; uses of new communication modes; and
- 3) Recognition of multi-media methods used in online and mobile communications.

Additionally, the program will familiarize students with the design and evaluation of communication messages and software applications.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, at least a 3.0 g.p.a. in the upper division of undergraduate coursework and a personal statement of one-two pages regarding interest in the program and career goals are required. Eligibility for this program is limited to persons holding an undergraduate degree from an accredited education institution in communication or a related field.

**CERTIFICATE REQUIREMENTS:** The Certificate requires satisfactory completion of twelve credits from the curriculum outlined below. Courses must be completed with a minimum grade point average of 3.0 or better, and must be completed within three years of the enrollment. The Certificate allows maximum six credits to count toward both the Certificate and a relevant M.A. in the Department. Transfer of credit from other institutions may NOT be applied toward the credits required for the certificate.

#### REQUIRED COURSES

- COM 5280 -- New Media Practices: Cr. 3
- COM 6270 -- New Media Theory: Cr. 3

#### ELECTIVE COURSES

(Minimum six credits from the following course offerings):

- COM 5500 -- Publishing on the Internet: Cr. 3
- COM 6530 -- Audience Measurement and Survey Techqs.: Cr. 3
- COM 6220 -- Dispute Resolution and Comm. Technology: Cr. 3
- COM 6560 -- Journalism and New Media: Cr. 3
- COM 7330 -- Advanced Desktop Publishing: Cr. 3
- COM 6680 -- Individual Projects in Media Arts and Studies: Cr. 1-3
- IT 7130 -- Facilitation of Online and Face-to-Face Learning: Cr. 3
- IT 7180 -- Message Design and Display: Cr. 4
- IT 7210 -- Foundations of Distance Education: Cr. 4

## Master of Arts in Dispute Resolution (M.A.D.R.)

Website: <http://www.comm.wayne.edu/madr.php>

This is an interdisciplinary master's degree program housed in the Department of Communication. The program is designed to provide meaningful academic knowledge and professional skills for individuals interested or engaged in conflict resolution activities. Dispute resolution is an interdisciplinary field of theory and endeavor unified by a paradigm of the nonviolent resolution or management of conflict through a range of techniques, such as negotiation and third-party neutral intervention methods including mediation and arbitration, which are applied to a diverse range of issues. The field applies to professional activities such as labor mediation, commercial arbitration, family counseling, legal negotiation, and international diplomacy.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. In addition, at least a 3.0 g.p.a. in the upper division of undergraduate coursework is required. Applicants must submit a personal statement of one-two pages outlining their interest in the program and three letters of recommendation.

**Scholarship:** All course work must be done in accordance with the regulations of the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 36 and 207. A 3.0 g.p.a. is required; if a grade below 'B' is received in any core course,

the course must be repeated promptly and a grade of 'B' or above obtained. A grade of 'C' or below in any two graduate courses will constitute a sufficient basis for dismissal from the program.

**DEGREE REQUIREMENTS:** This master's degree is offered as a Plan C program only. It requires the completion of the core curriculum (twenty-four credits) plus a minimum of three elective courses (minimum of eight credits).

**Prerequisite:** Students who have been admitted to the program must have earned course credit in research methods equivalent to any of the following courses: COM 7260 or PSY 5020 or PSY 6570, or must remedy the deficiency (the credit does not apply toward the graduate degree) concurrent with graduate courses taken in the M.A.D.R. Program.

Core Curriculum (Twenty-four credits):

- COM 6350 -- Communications, Culture, and Conflict: Cr. 3
- D R 6120 -- Human Diversity and Human Conflict: Cr. 3
- D R 7100 -- Roots of Social Conflict: Cr. 3
- D R 7210 -- (MGT 7780) Cpts & Prcss. in Dispute Resolution I: Negotiating Theory & Practice: Cr. 3
- D R 7220 -- Cpts & Prcss. in Dispute Resolution II: Neutral Intervention Theory & Practice: Cr. 3
- D R 7310 -- Practicum in Dispute Resolution (LEX 7660): Cr. 3
- D R 7890 -- Final Seminar in Dispute Resolution: Cr. 3
- PCS 6100 -- Intro. to Graduate Peace and Security Studies: Cr. 3

**Electives:** Students must elect a minimum of three courses (minimum of eight credits). Electives are selected with the cooperation and approval of the Academic Director. Students must ordinarily satisfy any prerequisites for elective courses; waivers of any prerequisites must be obtained from the unit offering the course. Suggested areas of elective study include but are not limited to: workplace, environmental and hazardous waste; family; gerontology; health care, theories of conflict, international relations.

**Candidacy:** Students are expected to file a Plan of Work upon successful completion of nine graduate credits. Upon approval of the Plan, the student's rank will be changed from 'applicant' to 'candidate,' provided the grade point average is at least 3.0

## Joint Juris Doctor / Master of Arts in Dispute Resolution

The Department of Communication Dispute Resolution Program in cooperation with the Law School offers a joint degree program leading to a Master of Arts Degree in dispute resolution and a Juris Doctor (J.D.) degree. Students in this program must be admitted to both the Law School and the graduate program in dispute resolution.

**DEGREE REQUIREMENTS:** This degree requires the completion of a minimum 102 credits with the master's degree part of the program offered only under Plan C. The first year of study is spent in the Law School. Following completion of the first year, students may elect one course per semester, up to a total of four courses, in the graduate M.A.D.R. program, credit for which is applicable toward the J.D. degree. In addition, Law School courses LEX 7016 (Alternative Dispute Resolution), and LEX 7616 (Negotiation) are considered equivalent to the M.A.D.R. core courses D R 7220 (Neutral Intervention) and D R 7210 (Negotiation), and their credit may be applied toward the M.A.D.R. Finally, students in this program may apply one Law School course (three credits) toward the satisfaction of the M.A.D.R. elective requirement.

For further information, contact the Academic Director of M.A.D.R. or the Law School Admissions Office.

**NOTE:** The Law School has an academic calendar and registration process separate from those in the Graduate School. Students must ensure they meet all appropriate application requirements and deadlines.

## Doctor of Philosophy with a Major in Communication

At the Ph.D. level the primary aim of the Department is to help students develop the theoretical basis and the analytical and research skills necessary for scholarly inquiry into various communication acts, processes and contexts. Courses in the Department are designed to serve several specific purposes:

1. To promote research and study into all aspects of communication process and effects.
2. To provide intensive inquiry into professional communication areas such as media, organizational communication and public relations, rhetoric, health, and interpersonal communication.
3. To prepare students for communication related careers in public service organizations and private business.
4. To prepare communication educators.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Admission to the Department's Ph.D. program is competitive and is based on an applicant's entire academic record; requirements stated below are *minimum* standards for consideration and do not guarantee admission. The Department requires an M.A. degree in communication or a related field, with a minimum 3.5 grade point average based on a 4.0 scale. In those instances where an applicant's M.A. is not communication-related, and/or has completed fewer than fifteen semester credits in communication, the applicant may be admitted to the department's master's degree program until such time as sufficient background for doctoral study is demonstrated.

**Application:** There are six parts to the Ph.D. application process including submission of the following:

1. The *Application for Graduate Admission*, with a non-refundable \$50.00 application fee (fee is the same for international students) made payable to Wayne State University. The application is available online at: <http://www.gradschool.wayne.edu/>
2. Three letters of recommendation from persons qualified to assess the applicant's scholarly potential.
3. A two- to three-page statement of the applicant's academic interests and professional goals identifying faculty with whom the applicant would like to work.
4. A sample of written scholarship, such as a research paper.
5. Graduate Record Examination (GRE) scores. Additionally, international students are required to have a minimum score of 600 on the Test of English as a Foreign Language (TOEFL), 250 on the computer-based test, or 100 on the internet based test.
6. Official transcripts from each college and university attended.

Doctoral students are admitted for the fall semester only. The deadline for the first round of admissions is January 15. Application materials are submitted online.

**DEGREE REQUIREMENTS** consist of a minimum of ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. The thirty credit dissertation registration requirement is fulfilled by registering for the courses COM 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All course work must be completed in accordance with the academic procedures of the College of Fine, Performing and Communication Arts and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 36 and 207.

All students must complete COM 8000 in the first semester of coursework with a grade of 'B' or better. Graduate teaching assistants are also required to complete COM 7810, Seminar in Communication Education, no later than their first semester of teaching. The

student's Plan of Work must be developed in consultation with the advisor and must be filed within the first eighteen credits of study.

### REQUIREMENTS

COM 8000 -- Introduction to Ph.D. Studies: Cr. 3

Five Tool/Research Methods courses; Up to two M.A. transfer courses may be applied, but these will not count toward the required sixty credits of Ph.D. coursework; Foreign language reading and writing proficiency as determined by appropriate tests can count as two tool courses, if the advisor judges the language directly relevant to the dissertation.

Four Content courses in the Department of Communication that together constitute a research area specialization.

Additional Elective Content courses as needed to achieve sixty credits of Ph.D. coursework (may include up to thirty credits transferred from the M.A., if applicable)

A minimum of nine credits in a Cognate field of study (i.e., a Minor) outside the Department of Communication.

Successful completion of written and oral Qualifying Examinations.

Successful defense of the Dissertation Prospectus.

Successful presentation and defense of the Doctoral Dissertation.

### FINANCIAL AID

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26; and the website: <http://www.financialaid.wayne.edu/> See also the Academic Regulations of the College, above. The following information applies to the Communication Department.

**Graduate Assistantships** employ selected graduate students in a variety of capacities, such as teaching public speaking or media production, or work with Forensics or University Television. Assistantships carry a stipend, health and dental insurance coverage, and a tuition waiver, and are renewable for up to three years. Graduate Teaching Assistantships are covered by the Graduate Employee Organizing Committee Agreement. Graduate Assistantships are infrequently awarded to master's students.

**The Thomas C. Rumble University Graduate Fellowship** is the most prestigious award available from the Graduate School. The recipient receives a stipend, health and dental insurance coverage, and tuition waiver with no teaching or other duties.

**Other Graduate Financial Aid** includes full-time Graduate Professional Scholarships, and the King-Chavez-Parks Minority Fellowships. Graduate students may also be eligible for loans, or the Federal College Work-Study Program. Contact the Graduate School for information: 313-577-2170.

**Scholarships and Awards:** For information on the awards listed below, contact the Department.

**George Bohman—Rupert Cortright Award Fund:** A departmental award of \$100-\$500 open to any student specializing in debate.

**Raymond and Alice Hayes Scholarship Fund:** A departmental award of \$150-\$500 open to any student specializing in debate.

**George A. Kopp Memorial Scholarship Fund:** An award of variable amount offered to full-time students, based on scholastic achievement, desirable qualities of leadership, and financial need.



# GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## COMMUNICATION (COM)

### **5010 History of Television and Radio. Cr. 3**

Open only to department undergraduate and graduate majors. Prereq: COM 1500 or consent of instructor or graduate standing. History of electronic media; development of industry; rise of genres and styles; social and political impact. (Y)

### **5020 Studies in Film History. Cr. 4 (Max. 12)**

Open only to department undergraduate and graduate majors. Prereq: COM 2010 or consent of instructor or graduate standing. 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. Material Fee as indicated in the Schedule of Classes. (Y)

### **5040 Cultures and Rhetorics. Cr. 3**

Offered for undergraduate credit; exceptions require consent of instructor. Analysis of philosophical, social, and cultural foundations of rhetorical theory and practice in different cultures. Cultures may include: African, Asian, Native American, Latin American, Arab, or Jewish. (B)

### **5050 Special Topics. Cr. 3 (Max. 9).**

No more than six credits may be elected in this special topics course in any graduate degree program. Selected topics in communication to be announced in the Schedule of Classes. (I)

### **5060 Documentary and Non-Fiction Film and Television. Cr. 4**

Open only to department undergraduate and graduate majors. Prereq: COM 2010 or COM 2450 or consent of instructor or graduate standing. Study of the non-fiction film made for a social, cultural, or political purpose; screening and analysis of selected films. Material Fee as indicated in the Schedule of Classes. (Y)

### **5080 History and Law of American Journalism. Cr. 4**

Prereq: junior or senior standing. History of the press in America; emphasis on development of law relating to communication and development of the media's effect on the law. (T)

### **5120 Public Address. Cr. 3**

Offered for undergraduate credit; exceptions require consent of instructor. Prereq: COM 2000. Landmark moments of public address. What constitutes public address; relevance of public address studies. (Y)

### **5130 Communication and Social Marketing. Cr. 3**

Principles of social marketing; student-driven group project. (F,S)

### **5180 Family Communication. Cr. 3**

Offered for undergraduate credit; exceptions require consent of instructor. Message patterns and social signals in organized, systemic human units that are interdependent, usually due to blood connections, legal bonds, and/or explicit verbal commitments. (Y)

### **5210 Newsletters and Corporate Publications. Cr. 4**

Prereq: COM 3210. Editing journalism newsletter; field trips to area magazines; editing internal publications. Journalism skills course. Material Fee as indicated in the Schedule of Classes. (T)

### **5250 Professional Issues in News Media Management. Cr. 4**

Prereq: COM 2230 or COM 4100 or consent of instructor. Open only to senior students. 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. Writing Intensive course for broadcast journalism sequence in journalism major. (Y)

### **5260 Professional Writing Workshop. Cr. 3**

Prereq: senior standing or above. For students and professionals who want to improve freelance writing skills, and for graduate students who want to publish academic research in popular magazines and journals. (I)

### **5270 (WI) Screenwriting. Cr. 4 (Max. 8)**

Open only to department undergraduate and graduate majors; others by consent of instructor. Prereq: COM 2210 and junior standing or above. Principles and techniques of writing for motion pictures. Analysis and study of professionally-written scripts. Exercises in writing documentary and dramatic film scripts. Material Fee as indicated in the Schedule of Classes. (Y)

### **5280 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. Research projects. (F)

### **5300 Desktop Publishing. Cr. 4**

Prereq: COM 2100 or consent of instructor. 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. Material Fee as indicated in the Schedule of Classes. (I)

### **5310 Investigative Reporting. Cr. 4**

Prereq: COM 4410 or COM 5381 or consent of instructor. Advanced reporting techniques involving use of Freedom of Information Act and computer-assisted data base searches; accessing public records. (I)

### **5320 Health Communication. Cr. 3**

Offered for undergraduate credit only; others by consent of instructor. Prereq: COM 2000. 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. (Y)

### **5330 Rhetoric of Visual Culture. Cr. 3**

Prereq: COM 2000. Offered for undergraduate credit only; exceptions require consent of instructor. 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. (W)

### **5350 Media Arts Production. Cr. 3**

No credit after COM 5380 or COM 5400. Prereq: graduate standing. Key components of production for electronic media (field, audio, and television production). Production techniques, aesthetic understanding, directing skills. Material Fee as indicated in the Schedule of Classes. (F)

### **5360 Gender and Communication. (W S 5360) Cr. 3**

Prereq: COM 2000. Offered for undergraduate credit only; exceptions require consent of instructor. Analysis of gender communication issues within interpersonal, group, organizational, intercultural, public, and mass mediated contexts. (Y)

**5370 Social Science Theories of Persuasion. Cr. 3**  
Offered for undergraduate credit only; exceptions require consent of instructor. Prereq: COM 2000. Theories of persuasion in communication; how theories can be applied to help solve communication-based social problems. (Y)

**5380 Video Field Production and Editing. Cr. 3**  
Prereq: admission to media arts and studies, film, or journalism majors; others require prereq: COM 1600 or COM 5350 and consent of instructor. 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. Material Fee as indicated in the Schedule of Classes. (W)

**5381 TV News Reporting and Digital Editing. Cr. 3**  
Prereq: COM 2230. Open only to majors in journalism and media arts and studies. 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. Material Fee as indicated in the Schedule of Classes. (Y)

**5384 Topics in Production Design and Theory. Cr. 3 (Max. 6)**  
Prereq: COM 5380 or COM 4310 or COM 5350 and consent of instructor. 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. Material Fee as indicated in the Schedule of Classes. (S)

**5390 Digital Animation. Cr. 3**  
Prereq: COM 5380. 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. (W)

**5400 Techniques of Film and Video Production. Cr. 4**  
Open only to department undergraduate and graduate majors; others by consent of instructor. Prereq: COM 4310 and COM 5380 or consent of instructor. Capstone course for seniors in production track sequence; should be taken in last 21 credits of program. Experience with the preparation, shooting and editing of video projects in film-style production. Material Fee as indicated in the Schedule of Classes. (T)

**5410 Producer's Workshop. Cr. 4**  
Open only to department undergraduate and graduate majors; others by consent of instructor. Prereq: COM 5380 or COM 5381 or AIN 5220 or COM 5350 or consent of instructor. Examination of the business, managerial, and creative considerations and process of producing media programming from conception through distribution. Material Fee as indicated in the Schedule of Classes. (Y)

**5420 Director's Workshop. Cr. 4 (Max. 8)**  
Prereq: COM 5400, production-ready script, and consent of instructor. Organization and execution of the film and video director's tasks through production of a major creative project. Material Fee as indicated in the Schedule of Classes. (Y)

**5440 Film Production. Cr. 4**  
Prereq: COM 5400, or consent of instructor. Introductory aspects of 16mm motion picture production, including the art and technology of cinematography, pre-production planning, basic camera operation, film stocks, exposure and color, temperature control, processing, and digital post-production. Material Fee as indicated in the Schedule of Classes. (B)

**5460 Magazine Writing. Cr. 3**  
Prereq: COM 4100. 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. (Y)

**5480 Topics in Public Media Studies and Practices. Cr. 4 (Max. 12)**  
Prereq: junior standing. Open only to media arts and studies, radio-TV, film, and journalism majors. Topics may include: studies and practices in media management, legal issues in media, media and globalization, new digital platforms. Material Fee as indicated in the Schedule of Classes. (Y)

**5500 Publishing on the Internet. Cr. 3**  
Prereq: COM 2100 or consent of instructor. Technique and goals of publishing on World Wide Web. Preparing graphics, learning HTML, uses of World Wide Web. Material Fee as indicated in the Schedule of Classes. (Y)

**5510 Mass Communications and Society. Cr. 3**  
Prereq: COM 1500 or consent of instructor. Open only to media arts and studies, radio-TV, journalism, or communication majors. Capstone course for media arts and studies majors in studies track; must elect in last 21 credits prior to graduation. Theoretical and practical research on the social functions and effects of the mass media. (Y)

**5520 International Communications. Cr. 3**  
International broadcasting and telecommunication systems and issues in global communication. (F,W)

**5560 Telecommunications Policy: A Political Economy Approach. Cr. 3**  
Introduction to both the process of developing telecommunications policies and the impact of these policies in the United States. (W)

**5700 Political and Governmental Reporting. Cr. 4**  
Prereq: COM 3100 or consent of instructor. Covering politics, governmental and public affairs in the media. (Y)

**6060 Teaching Communication at the Secondary Level. Cr. 3**  
Prereq: fifteen credits in communication. Philosophy, pedagogical issues, and methods for teaching speech in secondary schools. (S)

**6070 Directing Forensics. Cr. 3**  
Prereq: COM 2110 or consent of instructor. 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. (B)

**6100 Speech Writing. Cr. 3**  
Open only to graduate students; others by consent of instructor. 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. (W)

**6171 Human Communication and Aging. Cr. 3**  
Open only to graduate students; others by consent of instructor. How time and experience impact human communication, as seen through the media and through narrative stories crafted from oral histories of selected senior citizens. (I)

**6180 Principles of Health Communication. Cr. 3**  
Open only to graduate students; others by consent of instructor. Graduate survey of theory, research and practice in communication; emphasis on collaborative patient-provider interactions and health campaigns. (F)

**6190 Internship. Cr. 1-3 (Max. 6)**  
Prereq: junior standing or above and at least 12 credits in COM courses; written consent of instructor. On-the-job observations and work experience in business, service, social, governmental, and industrial organizations. Emphasis on journalism, public relations, and organizational communication. (T)

**6200 Theories of Small Group Processes. Cr. 3**

Open only to graduate students; others by consent of instructor. Theory and research on communication in the small, task-oriented group. (F)

**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. (F)

**6250 Organizational Communication. Cr. 3**

Open only to graduate students; others by consent of instructor. 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. (W)

**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. (Y)

**6280 Media and Diversity. Cr. 3**

Prereq: admission to M.A. program and consent of instructor. Recognition and acceptance of differences in culture, ethnicity, gender, and alternative lifestyles; sensitivities in writing and publishing; for students intending careers in the media. (Y)

**6350 Communication, Culture, and Conflict. (D R 6350) Cr. 3**

Open only to graduate students; others by consent of instructor. Overview of communication theory and practice as it relates to issues of culture, conflict and dispute resolution. (F)

**6530 Audience Measurement and Survey Techniques. Cr. 3**

Open only to graduate students; others by consent of instructor. Theory and application of quantitative and qualitative research techniques in surveying audiences for electronic media. (Y)

**6540 Media Operation and Management. Cr. 3**

Prereq: admission to M.A. program and consent of instructor. Financial aspects of media operation and administration. Discussion of case studies dealing with problems and challenges faced by mass media organizations; emphasis on organizational objectives of print and broadcast media. (Y)

**6560 Journalism and New Media. Cr. 3**

Prereq: admission to M.A. program and consent of instructor. Practicum course using online, interactive techniques to explore challenges of convergence of different media without compromising professional and ethical standards. (Y)

**6680 Individual Projects in Media Arts and Studies. Cr. 1-3**

Prereq: COM 5400; written consent of instructor. Advanced individual projects. (T)

**7000 Introduction to M.A. Studies in Communication Cr. 3**

Required during first term of M.A. study. Fundamentals of scholarly research and writing at the graduate level. (F,S)

**7010 Special Topics. Cr. 3 (Max. 6).**

No more than six credits may be elected in special topics courses in any graduate degree program. Selected topics in communication to be announced in the Schedule of Classes. (B)

**7040 Language of Oppression. Cr. 3**

Ways in which language is used as a device of oppression and liberation. (B)

**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. (B)

**7120 Contemporary Political Campaigns. Cr. 3 (Max. 6)**

Study of methods for analyzing political campaigns; a critical evaluation of presidential campaigns from 1960 to the present. (B)

**7130 Research in Social Movements. Cr. 3**

Methods for analyzing social movements; critical evaluation of contemporary social movements such as: civil rights, feminist, gay and lesbian rights, white supremacy, and environmental. (B)

**7135 Advanced Studies in Communication and Social Marketing. Cr. 3**

Prereq: graduate standing. Theory and practice of message production in social campaigns. (Y)

**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. (W)

**7150 Micro-Level Organizational Communication. Cr. 3**

Prereq: COM 6250. Communicative processes and behaviors that affect individuals in organizations; quality and quantity of workplace communication at dyadic and group levels. (B)

**7155 Theories of Interpersonal Communication. Cr. 3**

Theories used to investigate both relational and strategic dimensions of interpersonal communication. (B)

**7160 Crisis Communication. Cr. 3**

Prereq: COM 6250. Theoretical and case-study approach to communicative aspects of organizational crisis management. Topics include post-crisis response, crisis sensing, crisis planning. (B)

**7165 Communication and Issue Management. Cr. 3**

Prereq: COM 6250. Theoretical and case study approach to management of public policy issues facing organizations. Topics include: public relations, issue monitoring, environmental uncertainty. (B)

**7170 Health Communication. Cr. 3**

Theory and research in health communication; issues of patient-provider communication and health campaigns. (W)

**7171 Theories and Research in Relational Communication. Cr. 3**

Examination of research; theoretical contribution of communication scholars to the field. (I)

**7190 Classical Rhetorical Theory. Cr. 3**

Critical analysis of the Sophists, Plato, Aristotle, Cicero, and others on rhetoric. (I)

**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. (B)

**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. (B)

**7220 Professional Issues in Applied Communication. Cr. 3**

Prereq: completion of all M.A. degree requirements or enrollment in last six credits. Open only to students in final semester of M.A. course work. Open to organizational communication/public relations majors only with consent of advisor. (W)

**7240 Communication Consulting and Training. Cr. 3**

Prereq: COM 6250 or consent of instructor. Theoretical and pragmatic approaches to the design and implementation of strategic com-

munication 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. (B)

**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. (F)

**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. (W)

**7270 Advanced Screenwriting. Cr. 4**

Prereq: COM 5270 or consent of instructor. Research and writing for creation of full-length dramatic or documentary film and television scripts. Material Fee as indicated in the Schedule of Classes. (Y)

**7280 The Rhetoric of Kenneth Burke. Cr. 3**

Kenneth Burke's theory of rhetoric as it evolved through his literary, social criticism, dramatism, and logology periods. (I)

**7290 Contemporary Rhetorical Theory. Cr. 3**

Exploratory analysis of a broad spectrum of recent works relevant to the art of discourse. (B)

**7300 Feminist Rhetorical Criticism. Cr. 3**

Prereq: COM 7250 or consent of instructor. Investigation of philosophical and practical issues inherent in feminist approaches to rhetorical theory and criticism. (B)

**7310 Rhetoric and Contemporary Intellectual Developments. Cr. 3**

Intersection, nature, and relationship between rhetorical theory and recent intellectual developments in such areas as: cultural studies, social semiotics, postmodernism, neo-Marxism, feminism, critical theory. (B)

**7320 Postmodern Rhetorical Criticism. Cr. 3**

Prereq: COM 7250 or consent of instructor. Postmodernism, post-colonial, and critical-rhetoric challenges to traditional methods of rhetorical criticism. (I)

**7330 Advanced Desktop Publishing. Cr. 3**

Prereq: COM 5300, COM 5500, or consent of instructor. Advanced planning, development and production processes essential to creation of corporate publications; including brochures, newsletters, annual reports, marketing collateral materials, grant and proposal documents. Writing and strategic communication emphasis. Material Fee as indicated in the Schedule of Classes. (I)

**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. (B)

**7350 Rhetoric of Citizenship and National Identity. Cr. 3**

Theoretical examination of the structure and force of national identity and citizenship discourse. Analysis of current and emerging issues in citizenship studies. (I)

**7360 Qualitative Research Methods in Communication. Cr. 3**

The 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. (Y)

**7370 Advanced Theories of Persuasion and Social Influence. Cr. 3**

Theories of persuasion and social influence examined from a social scientific perspective to understand current issues in communication science and message design strategies. (I)

**7380 Advanced Media Editing. Cr. 3**

Prereq: consent of instructor. 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. Material Fee as indicated in the Schedule of Classes. (F,W)

**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. (Y)

**7420 Seminar in Directing Film and Video. Cr. 4**

Prereq: COM 5420, production-ready script, consent of instructor. Research and production of film and videotapes for professional distribution and exhibition. Material Fee as indicated in the Schedule of Classes. (F,W)

**7500 Seminar in Mass Communications. Cr. 3 (Max. 9)**

Topics vary according to instructor. Students should consult with area office. (Y)

**7510 Seminar in Mass Media Research. Cr. 3 (Max. 9)**

Conceptualization, measurement and analysis approaches and issues in mass communication research. Original research developed in class and carried out singly or collaboratively under instructor's supervision. (Y)

**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. (Y)

**7530 Critical Mass Communication Theory. Cr. 3**

Foundational readings and concepts; theoretical perspectives of critical theory and cultural studies. (F)

**7540 Mass Communications and Developing Countries. Cr. 3**

Introduction to use of communication and information technologies for socioeconomic development in Third World states. (W)

**7580 Content Analysis. Cr. 3**

Theory and practice in quantitative techniques for analyzing texts. (B)

**7590 Seminar in Television Criticism. Cr. 3**

Theory and practice in the aesthetic analysis of media content and form. (B)

**7600 Media and Cultural Historiography. Cr. 3**

Methods of historical analysis into media and culture; contemporary research into American cultural industries and styles; social impacts of media and popular culture. (B)

**7610 Feminist Media Theory and Criticism. Cr. 3**

Prereq: COM 7590 or consent of instructor. 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. (B)

**7680 Social Influence and Compliance-Gaining. Cr. 3**

Current theories and research on social influence and techniques for gaining compliance. (I)

**7700 Mass Media and Political Communication. Cr. 3**

Mass media research methods for political communication studied and applied. (I)

**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. (F)

**7820 Student Teaching of Oral Communication on the College Level. Cr. 3**  
Prereq. or coreq: COM 7810. Offered for S and U grades only. (I)

**7840 Studies in Communication Education. Cr. 3**  
Prereq: COM 7810. Research in communication education: issues, trends and controversies as reflected in major journals. (I)

**7990 Directed Study: M.A. Cr. 1-4 (Max. 4)**  
Prereq: written consent of chairperson, advisor, and director of graduate studies. (T)

**7991 Directed Study: Ph.D. Cr. 1-4 (Max. 6)**  
Prereq: written consent of advisor, chairperson and director of graduate studies. Open only to doctoral students. Research in major field for advanced graduate students. (T)

**7999 Master's Essay Direction. Cr. 1-3**  
Prereq: consent of advisor. (T)

**8000 Introduction to Ph.D. Studies. Cr. 3**  
Introduction to perspectives, tools and methods of communication research. Required during first term of Ph.D. study in the Communication Department. (Y)

**8010 Doctoral Honors Seminar. Cr. 1**  
Prereq: doctoral standing or consent of instructor. Short course taught by visiting scholars; designed to examine topics of interest in communication studies. (S)

**8120 History of Public Address. Cr. 3**  
Prereq: doctoral standing or consent of instructor. Topics to be announced in Schedule of Classes. (I)

**8170 Seminar in Interpersonal Communication. Cr. 3**  
Prereq: doctoral standing or consent of instructor. Various topics in interpersonal communication vary taught on term-specific basis. See the Schedule of Classes for current offerings. (I)

**8230 Ethnographic Methods for Communication Research. Cr. 3**  
Prereq: doctoral standing or consent of instructor. Design, implementation and evaluation of ethnographic and participant/observation research studies in communication. (B)

**8290 Special Topics in Communication Studies. Cr. 3 (Max. 9)**  
Prereq: doctoral standing or consent of instructor. Topics to be announced in Schedule of Classes. (I)

**8350 Advanced Study in Rhetorical Criticism. Cr. 3**  
Prereq: doctoral standing or consent of instructor; COM 7250 or equiv. Study of important decisions in rhetorical criticism; two critical projects refined throughout the term in context of critical process, perspectives and approaches. (B)

**8520 Seminar in Film. Cr. 3 (Max. 9)**  
Prereq: doctoral standing or consent of instructor. Topics vary with instructor. Consult the Departmental office. (B)

**8570 (I T 7140) Web-Based Courseware Development. Cr. 4**  
Prereq: I T 6110, Windows and Web literacy; or consent of instructor. 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. (Y)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**  
Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**  
Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**  
Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**  
Prereq: COM 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following COM 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**  
Prereq: COM 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following COM 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**  
Prereq: COM 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following COM 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**  
Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in COM 9991- COM 9994. Offered for S and U grades only.

## DISPUTE RESOLUTION (D R)

**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. (Y)

**6992 Special Topics in Dispute Resolution. Cr. 3**  
Dispute settlement in numerous contexts: business, family, legal system, community, education, church, and employment. History of dispute resolution; current trends as applied to topic areas. (Y)

**7100 Roots of Social Conflict. (P S 7850) Cr. 3**  
Prereq: graduate standing. 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. (Y)

**7210 (MGT 7780) Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice. Cr. 3**  
Prereq: graduate standing. Theoretical foundations of processes of negotiation and multi-party collaborative problem solving. Skill building simulation to integrate theory and practice. (Y)

**7220 Concepts and Processes of Dispute Resolution II: Neutral Intervention Theory and Practice. Cr. 3**  
Prereq: MGT 7780 or D R 7210. Dispute resolution growth and methods; mediation, facilitation, conciliation, fact-finding, arbitration; hybrids; dispute resolution institutions and practitioners. (Y)

**7310 (D R 7310) Practicum in Dispute Resolution. (LEX 7660)  
Cr. 3**

Prereq: D R 7210 and D R 7220 required; D R 7100 recommended; consent of academic advisor. Training in facilitative mediation with opportunity to practice skills in a variety of settings. Material fee as stated in Schedule of Classes. (Y)

**7890 Final Seminar in Dispute Resolution. Cr. 3**

Prereq: completion of all core courses except D R 7310. Capstone seminar for Dispute Resolution program. Critical issues and assumptions in the practice and research spheres. (Y)

**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. (Y)



# Music

*Office:* 1321 Old Main; 313-577-1795; *e-mail:* music@wayne.edu

*Chairperson:* John D. Vander Weg

*Associate Chairperson:* Norah Duncan IV

*B.A. Advisor and Graduate Officer:* Mary A. Wischusen

*Academic Services Officers:* Lee Dyament, Kristen Malecki

*Departmental Scholarships and Student Records:* Tinley Daniel

*Academic and Student Personnel:* Evelyn Williams

*Web:* <http://www.music.wayne.edu>

## *Professors*

Christopher Collins, Kypros L. Markou, Dennis J. Tini (Distinguished Professor), John D. Vander Weg

## *Associate Professors*

Douglas Bianchi, Karl Braunschweig, Frances Brockington, Abigail Butler, Robert Conway, Norah Duncan IV, Laura Roelofs, Mary A. Wischusen

## *Assistant Professors*

Jon Anderson, Joshua Duchan, Russell Miller, Emery Stephens

## *Lecturers*

Thomas Court, Janet Wright-McCaskill

## *Adjunct Professor*

David DiChiera

## *Emeriti Faculty*

Lillian J. Cassie, Carol J. Collins, James J. Hartway (Distinguished), Bohdan J. Kushnir, Joseph Labuta, Doris L. Richards, Terese Tuohy

## *Area Coordinators*

Douglas Bianchi (Instrumental), Karl Braunschweig (Composition, Theory, and History), Abigail Butler (Voice/Choral and Music Education), Christopher Collins (Jazz Studies), Dennis Tini (Music Business and Music Technology)

## *Adjunct Faculty*

Dwight Adams (jazz trumpet), Geoffrey Applegate (violin, DSO), Gerrie Ball (accompanist and piano), George Benson (jazz saxophone), John Bogdan (accompanist), Kazimierz Brzozowski (piano), Glenn Burdette (harpichord), Steven Carryer (jazz guitar ensembles), Marcy Chanteaux (cello, DSO), Clifford Chapman (music education), Keith Claeys (percussion and percussion ensemble), Carolyn Coade (viola, DSO), Gerald Custer (composition and theory), Sean Dobbins (jazz percussion), Lee Dyament (classical guitar), Gordon Finlay (voice), Mark Flegg (trumpet), Natasha Kelly Foreman (history), Gail Gebhart (piano), John Guinn (music history and theory), Scott Hanoian (choral conducting), Jeff Heisler (saxophone), Gary Hellick (trombone), Larry Hutchinson (bass, DSO), Max Janowsky (bass, DSO), David Jennings (trumpet), Michael Karloff (jazz combos), Paul Keller (jazz bass), John Kennedy (bass), Ronald Kischuk (trombone and jazz trombone), Ann Marie Koukios (piano and theory), Betty Lane (voice), Laura Larson (flute, MOT), Constance Markwick (violin and viola), Steven Mastrogiacomo (piano), Eldonna May (history), Lisa Meyer (music education), Clifford Monear (jazz piano), Charles Newsome (jazz guitar ensemble), Theodore Oien (clarinet, DSO), Mary Pacquette-Abt (history), Gene Parker (jazz saxophone), Robert Piphoo (jazz theory), Karl Pituch (horn, DSO), Donald Platter (woodwinds), Dan Pliskow (jazz bass), Ronald Prowse (organ), Richard Rattner (music business), Brian Roberts (guitar), Ernest Rodgers (jazz ensemble), James Ryan (jazz percussion), Matthew Schoendorff (composition and theory), Marcus Schoon (bassoon and contrabassoon, DSO), Marian Tanau (violin, DSO), David Taylor (jazz percussion), Patricia Terry-Ross (harp and music education), Judith Vander Weg (cello), James Van Valkenburg (viola, DSO), Brian Ventura (oboe, DSO), Stanley

Waldon (piano), Robert Williams (bassoon, DSO), Hai Xin Wu (violin, DSO)

## Graduate Degrees

*MASTER OF ARTS with a major in music*

*MASTER OF MUSIC with a concentration in composition/theory, conducting, performance, jazz performance, and music education*

*CERTIFICATE IN ORCHESTRAL STUDIES*

The Department of Music cultivates music as a contemporary 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 Detroit Institute of Arts, 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.

## MASTER'S DEGREES

The Master of Arts degree is designed for students who wish to pursue an academic career in music through a broad liberal arts curriculum. The Master of Music degree provides a program for talented students pursuing a professional concentration in 1) composition/theory, 2) conducting, 3) performance, 4) jazz performance, or 5) music education.

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, all master's degree applicants in music must:

- 1) apply to the Graduate School as a Music Major;
- 2) possess an undergraduate degree in the same field for which he or she wishes to pursue graduate study, or its equivalent in course work, private study, or experience;
- 3) complete pre-admission auditions or interviews. Audition and interview requirements are available from the Department of Music's website at <http://www.music.wayne.edu/auditions.php>.

All students admitted to Master's degrees are required to pass departmental diagnostic examinations in theory and history. Information about the diagnostic examinations is available on the Department's website at [http://www.music.wayne.edu/graduate\\_curr.php](http://www.music.wayne.edu/graduate_curr.php).

**DEGREE REQUIREMENTS:** The master's degree is offered under the following options:

**Plan A:** Twenty-four credits in course work, plus an eight-credit thesis, available to students enrolled in the M.A. or the M.Mus. with a concentration in Composition/Theory or Music Education. An original composition approved by the Composition/Theory Area Coordinator substitutes for the thesis in the M.Mus. degree with a concentration in Composition/Theory.

**Plan B:** Twenty-nine credits in course work, plus a three-credit essay, available to students enrolled in the M.Mus. with a concentration in Music Education only.

**Plan C (Conducting, Performance, and Jazz Performance):** Thirty-two credits in course work, plus a graduate recital with program notes. Guidelines for the program notes requirement are available from the Department of Music's website at [http://music.wayne.edu/graduate\\_curr.php](http://music.wayne.edu/graduate_curr.php)

**Plan C (Music Education only):** Thirty-two credits in course work, plus an oral presentation and written examination. (Music Education students may elect Plan A, B, or C – consult the Degree Requirements section, below).

**Oral Examination:** An oral examination is required of all students in the M.A. or the M.Mus. program concentrating in Composition/Theory, Conducting, Jazz Performance, or Performance. Music Education students who choose *Plan C* must complete an oral presentation and undertake a written examination in the area of concentration.

**Candidacy** must be established by the time twelve credits have been earned toward the master's degree. Applicants become degree candidates only upon recommendation of the Departmental Graduate Officer and submission of an approved *Plan of Work*. Before a student can be admitted to candidacy in the Master of Arts curriculum, satisfactory completion of a reading examination in a foreign language (preferably German or French) is required.

**Scholarship:** The University requires that each student achieve a minimum grade point average of 3.0, in order to be eligible for a graduate degree. Grades below 'B' (including 'B-minus') are unsatisfactory and constitute valid cause for dismissing a student from a graduate program. However, the Department of Music permits a student to accumulate a maximum of six credits of 'B-minus' grades (in courses other than the area of concentration) as long as they are offset by higher grades so that a 3.0 grade point average is maintained at all times. Credits of 'B-minus' and below in excess of six credits will result in dismissal from the program, regardless of whether the courses are included on the student's *Plan of Work*. All course work must be completed in accordance with the academic procedures of the College of Fine, Performing and Communication Arts and the Graduate School; see sections beginning on pages 36 and 207.

## Master of Arts with a Major in Music

**Prerequisite:** Prospective students should present a minimum of forty-five acceptable undergraduate credits in music distributed according to the requirements for the Bachelor of Arts degree with a major in music or its equivalent in course work, study, and experience. All students applying to the M.A. must complete a pre-admission interview or audition.

### DEGREE REQUIREMENTS

Music History and Theory (total credits: 18)

MUH 5300 -- Music Research: Cr. 3

MUH 73XX: 6-9 credits chosen in consultation with the program advisor

MUT 7XXX: 6-9 credits chosen in consultation with the program advisor

Music electives or cognates: Cr. 6

MUH 8999 -- Thesis: Cr. 8

Oral Examination: Cr. 0

Total: 32 credits

## Master of Music with a Concentration in Composition/Theory

**Prerequisite:** Bachelor of Music with a concentration in composition/theory or its equivalent in coursework, background, or experience. As part of the pre-admission interview, applicants must present scores and/or theory research materials as evidence of preparation for graduate work in composition or theory.

## DEGREE REQUIREMENTS

### Music History

- MUH 5300 -- Music Research: Cr. 3
- MUH 7XXX (selected in consultation with program advisor): Cr. 6

Music Theory and Composition (Twelve credits selected in consultation with the program advisor from MUT 7020 - MUT 7992)

- MUT 7020 -- Seminar in Schenkerian Analysis: Cr. 3
- MUT 7040 -- Seminar in Twentieth Cent. Music: Cr. 3
- MUT 7050 -- Seminar in Music Theory Pedagogy: Cr. 3
- MUT 7085 -- History of Theory: Cr. 3
- MUT 7100 -- Graduate Composition: Cr. 3 (Max. 12)  
(Composition Focus students must elect 9 credits of MUT 7100)
- MUT 7200 -- Special Topics in Theory: Cr. 3
- MUT 7992 -- Directed Study in Theory: Cr. 3 (Max. 6)
- MUT 8999 -- Thesis (see below): Cr. 8
- Music or Nonmusic Electives: Cr. 3
- Oral Examination: Cr. 0

Total: 32 credits

**THESIS:** an original composition in one of the larger forms with a minimum duration of twelve minutes, separate from the work completed in MUT 7100, and with approval of advisor required; or a substantial written thesis drawing on current research in theory and analysis, applied toward a project of the student's choice

## — with a Concentration in Conducting

**Prerequisite:** Bachelor of Music with a concentration in music education, organ/church music, or performance, or the equivalent in course work, training, or experience. All applicants must successfully complete a pre-admission audition and interview that will include demonstrating proficiency in the areas of score reading and piano.

### DEGREE REQUIREMENTS

#### Music History

- MUH 5300 -- Music Research: Cr. 3
- MUH 7370 -- Advanced Literature for Conductors: Cr. 3  
(Note: one additional MUH 73XX may substitute for MUH 7370 with the approval of the program advisor)
- MUH 73XX (chosen in consultation with program advisor): Cr. 6

#### Music Theory

- MUT 7020 -- Seminar in Schenkerian Analysis: Cr. 3
- MUT 7XXX (chosen in consultation with program advisor): Cr. 3

#### Conducting and Ensemble

- MUP 739X -- (Major Private Instr. in Conducting): Cr. 9 (Max. 12)
- MUA 7800, 7810, 7840, or 7850: (Major Ensemble): Cr. 1 (Req. 2)
- MUP 8290 -- Graduate Recital with Program Notes: Cr. 1
- Music or Nonmusic Electives: Cr. 2
- Oral Examination: Cr. 0
- Total: 32 credits

## — with a Concentration in Jazz Performance

**Prerequisite:** Bachelor of Music with a concentration in jazz studies or jazz performance or the equivalent in course work, private study, or experience. All applicants must successfully complete a pre-admission audition.

### DEGREE REQUIREMENTS

#### Music History

- MUH 5300 (Music Research): Cr. 3
- MUH 5360 and MUH 7390 (Jazz History): Cr. 6

#### Music Theory

- MUT 7070 -- Advanced Jazz Theory and Analysis: Cr. 3
- MUT 7XXX (chosen in consultation with the program advisor): Cr. 3

#### Performance and Ensembles

- MUP 73XX (Major Private Instruction): Cr. 9 (Max. 12)
- MUA 7820 -- Jazz Big Band: Cr. 1 (Req. 3)
- MUA 7822, 7824, or 7826 (Small Jazz Ensembles): Cr. 1 (Max. 2)
- MUP 8290 (Graduate Recital with Program Notes): Cr. 1  
(Program must include original compositions/arrangements.)
- Music or Nonmusic Electives: Cr. 3
- Oral Examination: Cr. 0

Total: 32 Credits

## — with a Concentration in Instrumental Performance

**Prerequisite:** Bachelor of Music with a concentration in instrumental performance or equivalent in course work, study, or experience. All applicants must successfully complete a pre-admission audition.

### DEGREE REQUIREMENTS

#### Music History and Theory

- MUH 5300 -- Music Research: Cr. 3
- MUH 73XX (chosen in consultation with program advisor): Cr. 6
- MUT 70XX (chosen in consultation with program advisor): Cr. 6

Performance and Ensembles (Note: Large Ensembles and Chamber Music must total a minimum of 3 credits.)

- MUP 72XX (Major Private Instruction): Cr. 9 (Max. 12)
- MUA 7800, 7810, 7840, or 7850 (Large Ensemble): Cr. 1 (Max. 2)
- MUA 7880 (Chamber Music): Cr. 1 (Max. 2)
- MUP 8290 (Graduate Recital with Program Notes): Cr. 1
- Music or Nonmusic Electives: Cr. 4
- Oral Examination: Cr. 0

Total: 32 credits

## —with a Concentration in Vocal Performance

**Prerequisite:** Bachelor of Music with a concentration in vocal performance or its equivalent in course work, study, or experience. All applicants must successfully complete a pre-admission audition.

### DEGREE REQUIREMENTS

#### Music History and Theory

- MUH 5300 (Music Research): Cr. 3
- MUH 73XX (chosen in consultation with the program advisor): Cr. 6
- MUT 7XXX (chosen in consultation with the program advisor): Cr. 3

#### Performance and Ensembles

- MUP 722X (Major Private Instruction): Cr. 9 (Max. 12)
- MUA 7730 (Advanced Diction): Cr. 3
- MUA 7840, 7850, or 7860 (chosen in consultation with program advisor): Cr. 1 (Max. 3)
- MUA 7880 (Chamber Music): Cr. 1
- MUP 8290 (Graduate Recital with Program Notes): Cr. 1
- Music or Nonmusic Electives: Cr. 3
- Oral Examination: Cr. 0

Total: 32 credits

## — with a Concentration in Music Education

**Admission:** Note: There is a moratorium on new admissions to the concentration in Music Education. For current information, please contact the Department of Music, (313) 577-1795.

**Prerequisite:** Bachelor of Arts, Science, or Music with concentration in Music Education. All applicants must successfully complete a pre-admission interview.

### DEGREE REQUIREMENTS

**Plan A:** Twenty-four credits in course work, plus an eight-credit thesis. (MED 8999)



**Plan B:** Twenty-nine credits in course work, plus a three-credit essay. (MED 7999)

**Plan C:** Thirty-two credits in course work, plus an oral presentation and written examination (includes one-credit directed study, MED 7990)

#### Music History and Theory

MUH 5300 (Music Research): Cr. 3

MUH 73XX (chosen in consultation with the program advisor): Cr. 3

MUT 7XXX (chosen in consultation with the program advisor): Cr. 3

#### Music Education

MED 8510 (Foundations of Music Education I): Cr. 3

MED 8520 (Foundations of Music Education II): Cr. 3

MED 8540 (Music Education Research): Cr. 3

And courses selected from

MED 5560, 5575, 5590, or 65XX-85XX (chosen with advisor):

Cr. 4-12 total (depending on Plan chosen)

Music or Nonmusic Electives: Cr. 3-7 (depending on Plan chosen)

Oral Examination: Cr. 0 (Plans A and B only)

Total: 32 credits

## Certificate in Orchestral Studies

The Graduate Certificate Program in Orchestral Studies is intended for instrumentalists with an interest in pursuing advanced and intense training in the art of orchestral playing. Even though it is primarily intended for musicians with an undergraduate or graduate degree in music, candidates with degrees in other fields will be considered if they can demonstrate extensive musical experience, including highly advanced performance skills on an orchestral principal instrument.

**Admission** to this program is contingent upon admission to the Graduate School, see page 18. Candidates should possess either an undergraduate degree in music or its equivalent in course work, private study, and experience.

**Prerequisite:** Bachelor of Music with a concentration in instrumental performance or its equivalent as described above. All applicants must successfully complete a pre-admission audition.

#### CERTIFICATE REQUIREMENTS

MUP 72XX (Major Private Instruction on principal instrument):

Cr. 9 (Max. 12)

MUA 7810 (University Symphony Orchestra): Cr. 3 (Max. 3)

MUA 7875 (Orchestral Repertory): Cr. 1 (2 Req.; Max. 3)

MUA 7880 (Chamber Music & Special Ensembles): Cr. 1 (Max. 3)

(Note: MUA 7875 and MUA 7880 elections must total 3 credits; if 7875 is repeated for 3 credits, 7880 is not required.)

Total: 15 credits

## FINANCIAL AID

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26. See also the Academic Regulations of the College, above. The following information applies to the Music Department.

Recipients of the following scholarships are chosen in May by the Music Faculty and awarded during the following academic year.

**Detroit Federation of Musicians/David Kaplan Scholarship:** Awarded to an outstanding undergraduate or graduate instrumentalist.

**Edward P. Frohlich Endowed Piano Scholarship:** Awarded to an outstanding music major with piano as a major or principal instrument.

**Robert A. Harris Excellence in Choral Music Award:** Awarded for excellence in choral performance.

**Louise Hodgson Memorial Endowed Scholarship:** Awarded to an outstanding music major.

**Bernard Katz Endowed Scholarship:** Awarded to an outstanding music major in piano or voice.

**Rebecca Katzman Froman Piano Scholarship:** Awarded to an outstanding piano student.

**Lawrence LaGore Endowed Memorial Scholarship:** Awarded to an outstanding keyboard major or principal; minimum 3.0 g.p.a. required.

**Harry M. Langsford Endowed Scholarship:** Awarded to an outstanding choral or vocal student.

**Robert F. Lawson Endowed Memorial Scholarship:** Awarded to an outstanding music major; minimum 3.0 g.p.a. required.

**Alice R. LeFevre Scholarships:** Awarded to any music major.

**Loughead-Eldridge Endowed Piano Scholarship:** Awarded to an outstanding piano principal or major.

**Music Study Club of Metropolitan Detroit Endowed Scholarship:** Awarded to an outstanding graduate student.

**Mark Otis Endowed Scholarship:** Awarded to an outstanding graduate student in performance or music education.

**Chester E. Puchalski Endowed Scholarship:** Awarded to an outstanding graduate or undergraduate instrumentalist.

**Joan Katherine Rossi Endowed Memorial Scholarship:** Awarded to any full-time music major who is an outstanding vocal performer.

**Robert Stawski Endowed Scholarship:** Awarded to an outstanding music major in voice.

**Mel Wanzo Endowed Jazz Trombone Scholarship:** Awarded to an outstanding jazz trombonist or brass player.

## GRADUATE COURSES

The following courses are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## PRIVATE INSTRUCTION IN MUSIC (MUP)

**Private Instruction** in conducting, instruments, or voice are required of all students in the M.Mus. concentrations in conducting, performance, or jazz performance and students in the Graduate Certificate program in Orchestral Studies. In addition, students in the M.A. program or the M.Mus. concentrations in Composition/Theory or Music Education may elect private instruction in a principal instrument or voice to fulfill music elective requirements. All students enrolled in private instruction are required to perform a jury.

The courses listed in the following tables as MUP 6XXX: Principal and Secondary Private Instruction are available for one credit each. Courses listed as MUP 7XXX: Major Private Instruction are available for three credits each.

**Limitation:** graduate standing in music; departmental permission required.







**7354 Jazz Brasswinds: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
(F,W)

**7361 Jazz Percussion: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7362 Jazz Percussion: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7363 Jazz Percussion: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7364 Jazz Percussion: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7371 Jazz Guitar: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7372 Jazz Guitar: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7373 Jazz Guitar: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**7374 Jazz Guitar: Major Instruction. Cr. 3**

Prereq: graduate standing in music and consent of department.  
Material Fee as indicated in the Schedule of Classes. (F,W)

**8290 Recital. Cr. 1**

Open only to candidates in the M.Mus. concentrations in conducting, jazz performance, or performance. Coreq: enrollment in MUP 72XX or 73XX course. Degree recital and preparation of program notes. Students enrolling in MUP 8290 should consult the "Guide to Writing Program Notes," which is available online at [http://music.wayne.edu/graduate\\_curr.php](http://music.wayne.edu/graduate_curr.php) (T)



*Principal and Secondary Private Instruction Courses*

Instrument			
Organ	6201	6202	6203
Piano	6211	6212	6213
Voice	6221	6222	6223
Strings	6231	6232	6233
Woodwinds	6241	6242	6243
Brasswinds	6251	6252	6253
Percussion	6261	6262	6263
Harp	6271	6272	6273
Classic Guitar	6281	6282	6283
Conducting	6291	6292	6293
Jazz Piano	6321	6322	6323
Jazz Strings	6331	6332	6333
Jazz Woodwinds	6341	6342	6343
Jazz Brasswinds	6351	6352	6353
Jazz Percussion	6361	6362	6363
Jazz Guitar	6371	6372	6373

*Major Private Instruction Courses*

Instrument				
Organ	7201	7202	7203	7204
Piano	7211	7212	7213	7214
Voice	7221	7222	7223	7224
Strings	7231	7232	7233	7234
Woodwinds	7241	7242	7243	7244
Brasswinds	7251	7252	7253	7254
Percussion	7261	7262	7263	7264
Harp	7271	7272	7273	7274
Classic Guitar	7281	7282	7283	7284
Conducting	7291	7292	7293	7294
Jazz Piano	7321	7322	7323	7324
Jazz Strings	7331	7332	7333	7334
Jazz Woodwinds	7341	7342	7343	7344
Jazz Brasswinds	7351	7352	7353	7354
Jazz Percussion	7361	7362	7363	7364
Jazz Guitar	7371	7372	7373	7374

## MUSIC THEORY (MUT)

### 5060 Advanced Orchestration. Cr. 3

Prereq: MUT 3000. No credit for the M.Mus. in composition/theory degree. Arranging and scoring for orchestra in all forms of ensemble structure. (I)

### 5110 Jazz Arranging and Composition I. Cr. 3

Prereq: MUT 2160 and 2170. No credit for M.Mus. in jazz performance degree. Creative writing for small jazz and pop ensembles. Arranging for three to five pieces including "head" arrangements, block chord technique and contrapuntal writing. (F)

### 5120 Jazz Arranging and Composition II. Cr. 3

Prereq: MUT 5110. No credit for M.Mus. in jazz performance degree. Creative writing for larger jazz and pop ensembles; jazz arranging for six to eighteen pieces combining various textures and timbres. (W)

### 5130 Jazz Arranging and Orchestration. Cr. 3

Prereq: MUT 5120. No credit for M.Mus. in jazz performance degree. Arranging pieces with concentration on orchestrating for large jazz ensembles. (F)

### 5997 Analytical Techniques. Cr. 3

Prereq: MUT 2160, MUT 2170; MUH 3330. Credit not applicable to graduate degrees in music. Capstone course for Music Department. Structural analysis of tonal music in historical perspective. (W)

### 7020 (MUT 5220) Seminar in Schenkerian Analysis. Cr. 3

Prereq: graduate standing in music. 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). (B)

### 7040 (MUT 5240) Seminar in Twentieth Century Music. Cr. 3

Prereq: graduate standing in music. Analysis of twentieth-century music using current applications of pitch-class set and transformational theories. (B)

### 7050 Seminar in Music Theory Pedagogy. Cr. 3

Prereq: graduate standing in music. Study of materials, teaching techniques, philosophy and organization of music theory classes. (I)

### 7070 Advanced Jazz Theory and Analysis. Cr. 3

Prereq: graduate standing in music. Analysis and application of advanced harmonic, rhythmic and melodic concepts used in jazz improvisation and composition. (B)

### 7085 (MUT 5085) History of Theory. Cr. 3

Prereq: junior standing for MUT 5085; graduate standing in music for MUT 7085. Theoretical writings from Plato to Rameau to Schenker, in historical contexts. (I)

### 7100 Graduate Composition. Cr. 3 (Max. 12)

Prereq: MUT 4110 or graduate standing in music. Advanced creative work in all of the idioms of twenty-first century musical composition. (F,W)

### 7200 (MUT 5200) Special Topics in Theory. (MUT 7200) Cr. 3 (Max. 6)

Prereq: graduate standing in music or consent of instructor. 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. (I)

### 7992 Directed Study in Theory. Cr. 3 (Max. 6)

Prereq: consent of instructor, program advisor, and graduate officer. (F,W)

### 8999 Master's Thesis Direction. Cr. 1-8 (8 req.)

Open only to master's candidates with concentration in composition/theory. Prereq: nine credits in graduate music theory and consent of advisor. Preparation of M.M. thesis project in composition/theory. (T)

## MUSIC HISTORY (MUH)

### 5300 Music Research. Cr. 3

Prereq: graduate standing in music or consent of instructor. Music bibliography and research techniques. (F)

### 5340 Survey of World Music. Cr. 3

Prereq: upper division or graduate standing. No credit for graduate degrees in music. 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. (F,W)

### 5350 Performance Literature and Pedagogy. Cr. 3

Prereq: performance major in music. No credit for graduate degrees in music. Survey of solo and chamber repertoire from the Renaissance to the present, for students' major performance areas. (Y)

### 5360 (MUH 3360) Jazz History. Cr. 3

Open only to post bachelor and graduate students. Survey of major developments in jazz from its beginnings to the present. (F)

### 5370 Diction and Song Literature I. Cr. 3

Open to music and theatre majors only. No credit for M.Mus. degree in vocal performance. Singers' diction in Italian, Latin, French and Spanish; methodologies, solo and chamber repertoire in these languages. (B)

### 5380 Diction and Song Literature II. Cr. 3

Open to music and theatre majors only. Prereq: MUH 5370. No credit for M.Mus. degree in vocal performance. Singers' diction in German, Hebrew, Russian and English; methodologies, solo and chamber repertoire in these languages. (B)

### 7315 (MUH 5315) Special Topics in Music History. (MUH 7315) Cr. 3 (Max. 6)

Prereq: graduate standing in music or consent of instructor. 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. (I)

### 7320 Studies in Renaissance Music. Cr. 3

Prereq: MUH 5300. Fifteenth and sixteenth centuries, from Burgundian School through Palestrina. Special reports; research projects. (B)

### 7330 Studies in Baroque Music. Cr. 3

Prereq: MUH 5300. From Monteverdi to 1750. Special reports; research projects. (B)

### 7340 Studies in Classical Music. Cr. 3

Prereq: MUH 5300. From 1750 to 1825. Special reports; research projects. (B)

### 7350 Studies in Romantic Music. Cr. 3

Prereq: MUH 5300. Nineteenth century. Special reports and research projects. (B)

### 7360 Studies in Twentieth Century Music. Cr. 3

Prereq: MUH 5300. Special reports and research projects. (B)

### 7370 Studies in Advanced Literature for Conductors. Cr. 3

Prereq: MUH 5300; graduate standing in music or consent of instructor. Open only to students in the M.M. in conducting program. Literature for various instrumental and choral ensembles from the Renaissance to the present; emphasis on stylistic characteristics, rehearsal techniques, and authenticity of performance. (Y)

### 7390 Studies in Jazz History. Cr. 3

Prereq: MUH 5360. Continuation of MUH 5360. (Y)

### 7991 Directed Study in Music History. Cr. 3 (Max. 6)

Research investigations in historical musicology. (T)

**8999 Master's Thesis Direction. Cr. 1-8 (8 req.)**

Prereq: nine credits in graduate music history and consent of advisor.  
Open only to M.A. candidates in music. (T)

## MUSIC ENSEMBLES and GENERAL COURSES (MUA)

**5730 Harpsichord Class. Cr. 2 (Max. 8)**

Open only to music majors. (F,W)

**5790 Piano Accompanying. Cr. 2**

Prereq: graduate standing in music or consent of instructor. Techniques of accompanying at the piano; analysis of styles, performance practices, and historical comparisons. Graduate students assigned special project and research paper. (I)

**7730 Advanced Diction. Cr. 3**

Prereq: MUH 5370 and MUH 5380 or equiv.; graduate standing in music or consent of instructor. In-depth study of diction for singers. (I)

**7800 University Bands. Cr. 1 (Max. 3)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7802 (MUA 2802) Chamber Winds. (MUA 7802) Cr. 1**

Prereq: consent of instructor. Material Fee as indicated in the Schedule of Classes. (F,W)

**7810 University Symphony Orchestra. Cr. 1 (Max. 3)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7820 Jazz Big Band. Cr. 1 (Max. 3)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7822 Jazz Guitar Ensemble. Cr. 1 (Max. 2)**

Open only to graduate music majors. Prereq: consent of director. Large ensemble for jazz guitar majors/principals. Material Fee as indicated in the Schedule of Classes. (T)

**7824 Jazztet. Cr. 1 (Max. 2)**

Open only to graduate music majors. Prereq: consent of director. Select ensemble for jazz majors. Material Fee as indicated in the Schedule of Classes. (T)

**7826 Jazz Combos. Cr. 1 (Max. 2)**

Open only to graduate music majors. Prereq: consent of director. Small ensemble for jazz majors. Material Fee as indicated in the Schedule of Classes. (T)

**7830 Men's Chorus. Cr. 1 (Max. 4)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7840 Choral Union. Cr. 1 (Max. 3)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7850 Concert Chorale. Cr. 1 (Max. 3)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7860 (MUA 7860) Opera Workshop. (THR 7860) Cr. 1 (Max. 4)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7870 Women's Chorale. Cr. 1 (Max. 4)**

Prereq: consent of director. Material Fee as indicated in the Schedule of Classes. (F,W)

**7875 Orchestral Repertory. Cr. 1 (Max. 3)**

Open only to students in the graduate certificate in orchestral studies program. Individual and small group instruction in orchestral repertory, audition preparation, and mock auditions. Material Fee as indicated in the Schedule of Classes. (F,W)

**7880 Chamber Music and Special Ensembles. Cr. 1 (Max. 3)**

Prereq: graduate standing in music or consent of instructor. All forms including piano and string trios and quartets, and small wind groups. Material Fee as indicated in the Schedule of Classes. (F,W)

## MUSIC EDUCATION (MED)

**5520 Marching Band Techniques. Cr. 2-3**

Planning, charting, and rehearsal techniques for marching band; emphasis on contemporary, computer-generated drill designs; practical projects in developing a complete marching band program. Material Fee as indicated in the Schedule of Classes. (Y)

**5550 Choral Conducting and Rehearsal Techniques. Cr. 3**

Prereq: MUA 3670 or equiv. No credit for M.Mus. in conducting or music education. Conducting and rehearsal methods and materials for secondary schools. (W)

**5560 Secondary School Music Workshop. Cr. 2 (Max. 4)**

Group participation in the study of class materials and teaching procedures for secondary music teachers. (S)

**5575 Topics in Music Education. Cr. 1**

Open only to music majors. Course work requires attendance at the annual Michigan Music Conference, keeping of a reflective journal, and a follow-up project related to music teaching. (W)

**5590 Computer Applications in Music Teaching. Cr. 2**

Prereq: completion of computer literacy (CL) general education requirement. Open only to music majors. Presentation of techniques and strategies for utilizing computer music software programs and MIDI equipment in music instruction. Material Fee as indicated in the Schedule of Classes. (S)

**6520 Elementary School Music Workshop. Cr. 2 (Max. 4)**

Group participation in the study of class materials and teaching procedures for elementary music teachers. (S)

**6530 Conducting and Operating the School Band.  
Cr. 2-3 (Max. 6)**

Classroom and individual instruction in conducting, score study, and rehearsal techniques for the middle school or high school band. (S)

**6540 Instrumental Music Workshop. Cr. 2 (Max. 4)**

Current problems, procedures and materials pertaining to development of the instrumental music program in the schools. (S)

**7560 Contemporary Trends in Music Education. Cr. 3**

Open to all graduate students. Role of music in the school. Philosophy, trends and issues in music education on all grade levels. (B)

**7990 Directed Study in Music Education. Cr. 1-3 (Max. 6)**

Prereq: consent of advisor. Open only to master's candidates in music education. (T)

**7999 Master's Essay Direction. Cr. 3**

Prereq: consent of advisor. Open only to master's candidates in music education. (T)

**8510 Foundations of Music Education I. Cr. 3**

Historical and philosophical foundations of music education; important trends, innovations and leaders in the development of music in American schools; and the influence of educational philosophers and aesthetic theories. (B:S)



**8520 Foundations of Music Education II. Cr. 3**

Psychological and sociological foundations of music education; the application of learning theories to music teaching and evaluation of school music programs. (B:S)

**8540 Music Education Research. Cr. 3**

Basic skills in music education research; research reading and criticism; problem statement formulation; literature review; data gathering techniques; statistics and data analysis; manuscript development and report writing; research methodologies in music education. (B)

**8999 Master's Thesis Direction. Cr. 1-8 (8 req.)**

Open only to M.Mus. candidates in music education electing Plan A. Prereq: nine credits in graduate music education and consent of advisor. Preparation of M.M. thesis project in music education. (T)



# Theatre and Dance

Office: 3226 Old Main; 313-577-3508

Interim Chairperson: James Thomas

Email: theatre@wayne.edu

Theatre Website: <http://www.theatre.wayne.edu/>

Dance Website: <http://www.dance.wayne.edu>

### Professors

Lazar Kaushansky (Emeritus), David J. Magidson, Nira Pullin (Emerita), Doug Risner, Anthony B. Schmitt (Emeritus), Thomas H. Schraeder, Russell E. Smith (Emeritus), James Thomas

### Associate Professors

Blair Anderson, Michael Barnes, Fred Florkowski, Lavinia Hart, Eva Powers, Jeffrey M. Rebudal, John Woodland, Ann Zirulnik (Emerita)

### Assistant Professors

Mary Elizabeth Anderson, Pegi Marshall-Amundsen, Jesse Merz, Georgia Reid (Emerita), Cheryl Turski

### Senior Lecturer

Dana Gamarra, Mary Cooney

### Lecturers

Mary Copenhagen, Karen Prall, Linda Cleveland Simmons, Mary Paul, Ariel Osterweis

### Support Staff

Jessica Chavez, Michael Donohue, Patrick Field, Matthew Gribbin, Sean Hoskins, Mary Leyendecker, Patricia Moore, Maria Paglia-Militello, Lynetta Smith

## Graduate Degrees

*MASTER OF ARTS with a major in Theatre*

*MASTER OF FINE ARTS with a major in Theatre and specializations in acting, theatre stage design, stage costume design, stage lighting design, theatre management and stage management*

*DOCTOR OF PHILOSOPHY with a major in Theatre*

## Master of Arts with a Major in Theatre

*An admissions moratorium is currently in effect for this program*

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must have at least a 3.0 ('B') grade point average. A minimum of fifteen semester credits in the area of specialization is required.

**Candidacy** must be established by the time twelve credits have been earned.

**DEGREE REQUIREMENTS:** The Master of Arts degree is offered by this department under the following options:

**Plan A:** Thirty-two credits, including an eight-credit thesis.

**Plan B:** Thirty-two credits, including a three-credit essay.

**Plan A — Thesis:** *Thirty-two credits (24 credits in course work plus 8 credits in thesis)*

### Research Methods (3 credits)

HIS 7830 -- Methods and Research in History: Cr. 3

### Literature Sequence (6 credits)

THR 5220 -- Black Dramatic Literature: Cr. 3

THR 6120 -- Development of Drama II: Cr. 3

### Criticism, Playwriting Sequence (6-8 credits)

THR 5250 -- Playwriting (not offered on a regular basis): Cr. 3

THR 7040 -- Dramaturgy: Cr. 3

THR 7200 -- Theatre Aesthetics: Cr. 3

### Thesis (8 credits)

THR 8999 -- Master's Thesis Research & Direction: Cr. 1-8 (8 req.)

### Electives (5-9 credits, including at least one course from the following seminars)

THR 7890 -- Seminar: Dramatic Literature: Cr. 3

THR 8100 -- Seminar: Theatre History: Cr. 3

THR 8500 -- Seminar: Directing: Cr. 3

THR 8600 -- Seminar: Dramatic Theory and Criticism: Cr. 3

THR 8810 -- Seminar: Performance Studies: Cr. 3

Plus other electives with approval of advisor

*Oral Examination:* A final oral examination covering the thesis, the Graduate Reading List and all course work taken at Wayne State University will also be required.

### Plan B — Essay: (29 credits in course work plus 3 credits in essay)

#### Research Methods (3 credits)

HIS 7830 -- Methods and Research in History: Cr. 3

#### Literature Sequence (6 credits)

THR 5220 -- Black Dramatic Literature: Cr. 3

THR 6120 -- Development of Drama II: Cr. 3

#### Criticism, Playwriting Sequence (6 credits)

THR 5250 -- Playwriting I (not offered on a regular basis): Cr. 3

THR 7040 -- Dramaturgy: Cr. 3

THR 7200 -- Theatre Aesthetics: Cr. 3

#### Essay (3 credits)

THR 7999 -- Master's Essay Direction: Cr. 1-3 (3 req.)

#### Electives (10-14 credits, including at least one course from the following seminars)

THR 7890 -- Seminar: Dramatic Literature: Cr. 3

THR 8100 -- Seminar: Theatre History: Cr. 3

THR 8500 -- Seminar: Directing: Cr. 3

THR 8600 -- Seminar: Dramatic Theory and Criticism: Cr. 3

THR 8810 -- Seminar: Performance Studies: Cr. 3

Plus other electives with approval of advisor

*Oral Examination:* A final oral examination covering the essay, the Graduate Reading List and all course work taken at Wayne State will also be required.

## Master of Fine Arts with a Major in Theatre

The Master of Fine Arts curriculum in theatre is a three-year program of intensive professional training in the student's area of specialization and is offered in acting, theatre stage design, stage costume design, stage lighting design, theatre management or stage management.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must satisfy the following criteria.

Students with a bachelor's degree are eligible to enroll in the M.F.A. program if they have successfully completed an audition or personal interview with the theatre arts faculty.

Students must declare their area of specialization upon entry into the program. The M.F.A. program is open only to members of the Hilberry Repertory Theatre Company.

**DEGREE REQUIREMENTS:** The Master of Fine Arts with a Major in Theatre is offered only as a Plan C master's program, requiring sixty credits in the area of specialization. All programs require a final project and a final oral examination relevant to the degree specialization. Major requirements are as follows:

#### **ACTING:** *Sixty Credits.*

(Open only to members of the Hilberry Company.)

THR 5120, 6120 -- Development of the Drama I & II: Cr. 3 (Max. 6)

THR 6010, 6020, 7050, 7060, 7110, 7120 -- Studio I-VI: Cr. 1-3 (Max. 18)

THR 6050, 6100, 7010, 7090, 7180, 7190

-- Voice and Speech I-VI: Cr. 1 (Max 6)

THR 6070, 6110, 7020, 7100, 7140, 7150 -- Movement & Dance Styles I-VI: Cr. 1 (Max. 6)

THR 7040, 7200, 5250, 5100, 5210 -- Literature and Criticism: Cr. 3 (Max. 6)

THR 7070 -- Repertory Theatre: Cr 1-4 ( Max. 18)

THR 7890, 8100, or 8810 (select one) -- Seminar in Theatre: Cr. 3

THR 8020 -- M.F.A. Exit Project: Cr. 3

#### **THEATRE MANAGEMENT:** *Sixty Credits.*

THR 6300 -- Advanced Studies in Theatre Management: Cr. 3

THR 6350 -- Human Resources & Financial Mgt. for Theatre: Cr. 3

THR 7075 -- Practicum for Theatre Management: Cr. 18

THR 7300 -- Fund Development and the Theatre: Cr. 3

THR 7350 -- Survey/Rsch. Tech. for Theatre Managers: Cr. 3

THR 7330 -- Market Data and Decisions in Theatre: Cr. 1-2

THR 7340 -- Sourcing and Managing Project Funds: Cr. 1-2

THR 7360 -- The Media and Theatre: Cr. 1-2

THR 7370 -- Managing Groups and Teams: Cr. 1-2

THR 7380 -- Interpersonal Dynamics: Cr. 1-2

THR 7385 -- Board Governance in the Theatre: Cr. 1-2

**Business/Theatre Coursework:** Five three-credit courses selected from the following lists; other courses may be substituted with advisor approval:

#### BUSINESS ELECTIVES:

B A 6000 or 6010 or 6020:

-- Introduction to Accounting & Financial Reporting: Cr. 2

-- Basics of Business Economics: Cr. 2

-- Contemporary Principles of Management: Cr. 2

COM 5300 or 5500:

-- Desktop Publishing: Cr. 4

-- Publishing on the Internet: Cr. 3

COM 6250 -- Organizational Communication: Cr. 3

FPC 5020 -- Legal Environment of the Arts: Cr. 3

#### THEATRE ELECTIVES:

THR 5100, 5120, 5210, 6120, 7040,

7170, 7200, 7890, 8100, 8810

THR 8020 -- M.F.A. Exit Project: Cr. 3

**STAGE MANAGEMENT:** *Sixty Credits:* Variations in curricula are possible within the Theatre Management program for students interested in Stage Management. The variations include replacement of THR 7170, Internship in Theatre Management, with THR 8190 and THR 8200, Teaching Internship I and II, plus courses in scenic, costume, and lighting design, selected in consultation with an advisor.

#### **THEATRE STAGE DESIGN:** *Sixty Credits.*

THR 6000 -- Foundations of Graduate Design: Cr. 2

THR 6400 -- Styles of Design: Cr. 3

THR 5090 -- Advanced Stage Design: Cr. 3

THR 6290 -- Professional Scenic Design I: Cr. 3

THR 6390 -- Professional Scenic Design II: Cr. 3

THR 5140 -- Introduction to Scene Painting: Cr. 3

THR 5150 -- Advanced Scene Painting: Cr. 3  
THR 6210, 6220, 7210, 7220 -- Design Studio I - IV: Cr. 2 (Max. 8)  
THR 7070 -- Repertory Theatre: Cr. 2  
THR 7130 -- Architecture and Decor: Cr. 3  
THR 8050 -- M.F.A. Design Exit Project: Cr. 2  
Design Cognates (with advisor's approval): Cr. 6  
Theatre Studies (with advisor's approval): Cr. 9

**STAGE LIGHTING DESIGN: *Sixty Credits.***

THR 5300 -- Advanced Stage Lighting Design: Cr. 3  
THR 6000 -- Foundations of Graduate Design: Cr. 2  
THR 6090 -- Professional Lighting Design I: Cr. 3  
THR 6190 -- Professional Lighting Design II: Cr. 3  
THR 6210, 6220, 7210, 7220 -- Design Studio I - IV: Cr. 8  
THR 6330 -- Sound Design & Technology: Cr. 3  
THR 6400 -- Styles of Design: Cr. 3  
THR 7070 -- Repertory Theatre: Cr.12  
THR 7130 -- Architecture and Decor: Cr. 3  
THR 8050 -- M.F.A. Design Exit Project: Cr. 2  
Design Cognates (with advisor's approval): Cr. 9  
Theatre Studies (with advisor's approval) : Cr. 9

**STAGE COSTUME DESIGN: *Sixty Credits.***

THR 5050 -- Play Direction: Cr. 3  
THR 5090 -- Advanced Stage Design: Cr. 3  
THR 5070, 5080, 5300 (select two) -- Lighting & Stage Dsgn.: Cr. 6  
THR 5120 -- Development of the Drama I: Cr. 3  
THR 6000 -- Foundations of Graduate Design: Cr. 2  
THR 6060 -- Professional Costume Design I: Cr. 3  
THR 6080 -- Advanced Stage and Film Makeup: Cr. 2  
THR 6160 -- Professional Costume Design II: Cr. 3  
THR 6210, 6220, 7210, 7220 -- Design Studio I - IV: Cr. 2 (Max 8)  
THR 6400 -- Styles of Design: Cr. 3  
THR 6600 -- Costume History & Design I: Cr. 3  
THR 6610 -- Costume History & Design II: Cr. 3  
THR 7130 -- Architecture and Decor: Cr. 3  
THR 7200 -- Theatre Aesthetics: Cr. 3  
THR 8050 -- M.F.A. Design Exit Project: Cr. 2  
THR 8190, 8200 -- Teaching Internship: Cr. 3  
Design Cognates (with advisor's approval) : Cr. 6  
Theatre Studies (with advisor's approval): Cr. 9  
Electives (with advisor's approval): Cr. 10

## Doctor of Philosophy with a Major in Theatre

The Ph.D. program in theatre at Wayne State University is designed to train the scholar/director. Courses in the Department are designed to promote research and study in all aspects of the theatre arts, and to provide intensive training in theatre.

**Admission:** Effective Fall 2012 an admissions moratorium is in effect for this program. All of the following is reprinted to accommodate students currently enrolled and for transcript validation purposes.

Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must satisfy the following criteria. Required prerequisites include an M.A. degree with a 3.3 ('B'=3.0) grade point average, undergraduate and graduate work in the theatre arts, the ability to write effectively, and demonstrated proficiency in speaking and reading.

Only students with significant training and experience in directing who have a major creative interest in directing will be considered for admission. The Department reserves the right to restrict doctoral admissions due to limitations on production resources.

In addition to completing all admission procedures of the Graduate School, the applicant for graduate study in theatre should provide:

1. copies of all academic transcripts;

2. graduate record examination scores;
3. at least three letters of recommendation addressing applicant's academic and artistic talent or promise;
4. a scholarly paper of at least 2,000 words or thesis demonstrating research ability;
5. applicant's Statement of Goals (100-150 words);
6. reviews and/or other documents of performance achievement, if available. The applicant should consult the Chairperson of the Departmental Graduate Committee for details.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Additional requirements include: one course in graduate research techniques or its equivalent; a departmental major or minor; and a minor outside the department. Dissertations characteristically employ critical or historical methods. Specific guidelines are available in the Office of the Chairperson of the Departmental Graduate Committee. Additional requirements may be made by the student's advisory committee and the Departmental Graduate Committee.

The qualifying examinations will cover major and minor areas in the student's Plan of Work.

## FINANCIAL AID

Sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26. See also the Academic Regulations section of the College, above. The following information applies to the Theatre and Dance Department.

## Fellowships and Assistantships

Each year a number of graduate assistantships are awarded to qualified students. Hilberry Repertory Theatre student assistantships are awarded annually on the basis of auditions. For information, write to the Chairperson of the Department or the Chairperson of the Departmental Graduate Committee.

## Scholarship

*Francis Selfo Scholarship:* An award of variable amount open to any student of Albanian descent who is studying theatre. Application deadline is May 15. Contact the Office of Scholarship and Financial Aid for details.

## GRADUATE COURSES (DNC)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**5000 Performance Tour. Cr. 2 (Max. 8)**

Prereq: DNC 5610 or DNC 6610. Open by audition only. Development and performance of touring dance performances off campus

including regional, national, and international festivals; productions for elementary, middle and secondary school audiences. (W)

**5110 Study in Dance Styles. Cr. 1 (Max. 16)**

Examination of a particular dance or movement style; i.e., historic period, technique, somatic, tap, ballroom and social dance forms; Pilates mat, reformer. Material Fee as indicated in the Schedule of Classes. (T)

**5120 Pilates Equipment Lab. Cr. 0**

Prereq: DNC 5110. Open only to dance majors. Offered for S and U grades only. Individual study in Pilates lab one hour per week. (F,W)

**5560 Choreography III. Cr. 2**

Prereq: DNC 2500, DNC 3500. Open only to dance majors. 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. Material Fee as indicated in the Schedule of Classes. (F)

**5600 Improvisation. Cr. 2**

Spontaneous movement exploration in response to a variety of stimuli: literal, visual, kinesthetic, auditory, verbal, and tactile. (F)

**5610 Dance Company I. Cr. 1 (Max. 8)**

Prereq: admission by audition. Coreq: DNC 2010, 3010, 4010 or 6010. Performing company. Open to students interested in performing and/or choreographing. Material Fee as indicated in the Schedule of Classes. (F,W)

**5710 Dance Techniques. Cr. 1-6 (Max. 12)**

A concentrated period of advanced dance study in technique, composition and repertory, often with a visiting artist. (F,W)

**5800 Repertory. Cr. 1-4 (Max. 12)**

Prereq: admission by audition. Learning, for performance, of dance repertory, dances previously choreographed by faculty, Labannoted dance, or work of artist-in-residence. (F,W)

**5810 Teaching Creative Dance for Children. (TED 5810) 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. (F)

**5820 Creative Dance Movement for the Pre-School Child. (TED 5820) Cr. 3**

Creative dance activities; manipulative, musical, imaginative and kinesthetic approaches to movement. (W)

**5830 Field Work in Creative Dance. (TED 5830) Cr. 2-8**

Prereq: DNC 5810 or consent of instructor. Open only to dance majors. Supervised professional study in field settings. (T)

**5910 Dance Professions Seminar. Cr. 3**

Prereq: DNC 4910. Advanced inquiry and directed individual study in the dance professions, including research study design and implementation in applied settings within an approved internship or field-work context. Serves as pre-Capstone experience. (F)

**5990 Independent Study in Dance. Cr. 1-4 (Max. 12)**

Open only to dance majors. Independent work in dance under faculty guidance. (T)

**5996 Senior Capstone Research. Cr. 3 (Max. 6)**

Prereq: DNC 3500. Group and solo choreography, concert production, publicity and promotion; research component includes digital dance portfolio. Material Fee as indicated in the Schedule of Classes. (W)

**5997 Departmental Honors Thesis. Cr. 3**

Open only to dance majors in the departmental honors program. Prereq: DNC 3500. Group and solo choreography, concert production,

publicity and promotion; research component includes digital dance portfolio. (W)

**5998 Professions Capstone Research. Cr. 3**

Prereq: DNC 5910; junior standing or above. Open only to B.S. dance majors. Directed study leading to completion of the B.S. professions project in dance. (W)

**6010 Technique Laboratory III. Cr. 1 (Max. 8)**

Prereq: DNC 3010 or equiv. Modern Dance technique, advanced level. (F,W)

**6610 Dance Company II. Cr. 1 (Max. 8)**

Prereq: DNC 5610 or equiv. Required for students in the choreography and performance emphasis. Admission by audition. Performing company. Performing, choreographic and/or production responsibilities. (F,W)

## GRADUATE COURSES (THR)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**5010 Theatre Costuming I. Cr. 3**

Open only to theatre majors at sophomore level or above. Introduction to costume design and construction. Laboratory projects coordinated with University Theatre productions. Material Fee as indicated in the Schedule of Classes. (F)

**5020 Theatre Costuming II. Cr. 3**

Open only theatre majors in upper division or above. Advanced costume design projects concentrating on the expression of character through design principles. Further development of drawing and rendering skills. (W)

**5050 Play Direction. Cr. 3**

Open only theatre majors in upper division or above. Principles and theories of stage movement, blocking, casting, rehearsing. Students required to direct scenes and one-act plays for class presentation. (F)

**5070 Stage Lighting. Cr. 3**

Open only to theatre majors at sophomore level or above. 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. (F)

**5080 Stage Design. Cr. 3 (Max. 6)**

Open only to theatre majors at sophomore level or above. 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. (I)

**5090 Advanced Stage Design. Cr. 3 (Max. 6)**

Open only to theatre majors in upper division or above. Prereq: THR 5080. Laboratory theory course in stylistic characteristics of modern stage designs. Advanced problems in scenic design. (I)

**5100 Theatre History I. Cr. 3**

Required of all B.F.A. majors. Open only to theatre majors at sophomore level or above. 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. Material Fee as indicated in the Schedule of Classes. (F)

**5120 Development of the Drama I: Greek to Eighteenth Century. Cr. 3**

Open only to theatre majors in upper division or above. Plays from the Greek through the eighteenth century, including Shakespeare; relation of drama to an era and its theatre. (F)

**5130 (ENG 5890) Writing for Theatre. Cr. 3 (Max. 6)**

Prereq: ENG 3830 or consent of instructor. Advanced study, in a workshop setting, of dramatic structure and writing for the theatre, terminating in the writing of an original stage play. (I)

**5140 Introduction to Scene Painting. Cr. 3**

Open only to theatre majors in upper division or above. Laboratory 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. Material Fee as indicated in the Schedule of Classes. (I)

**5150 Advanced Scene Painting. Cr. 3**

Open only to theatre majors in upper division or above. Laboratory and demonstration course for the design or technical theatre student. Materials, techniques, styles of scene painting. Material Fee as indicated in the Schedule of Classes. (I)

**5210 Theatre History II. Cr. 3**

Prereq: THR 5100 or consent of instructor. Open only to theatre majors at sophomore level or above. Continuation of THR 5100. From English and continental eighteenth century to contemporary European and American theatres. Material Fee as indicated in the Schedule of Classes. (W)

**5220 (THR 5220) Black Dramatic Literature and Performance. (AFS 5220) Cr. 3**

Open only to theatre majors with upper division or graduate status. 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. (Y)

**5230 Pioneers of the Modern Theatre. Cr. 3**

Open only to theatre majors with upper division or graduate status. Stanislavski, Meyerholdt, Artaud, Gordon Craig, Brecht; lectures and creative projects. (B)

**5250 Playwriting. Cr. 3**

Open only to theatre majors with upper division or graduate status. Introduction to the craft of writing for the stage. Students required to write a full-length dramatic script. (B)

**5300 Advanced Stage Lighting Design. Cr. 3**

Prereq: THR 5070; theatre major with senior or graduate standing, or consent of instructor. Not open to freshman or sophomore students. Examination of situations and responsibilities encountered in professional lighting design. Project work based on large-scale, complex requirements. Material Fee as indicated in the Schedule of Classes. (I)

**5410 Applied Theatre Studies: Community Possibilities. Cr. 3**

Open only to graduate students. Prereq: consent of instructor. 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. (Y)

**5460 Applied Theatre Studies: Theatre in Education. Cr. 3**

Open only to graduate students. Prereq: consent of instructor. 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. (Y)

**5490 Applied Theatre Practicum. Cr. 1-4 (Max. 8)**

Prereq: consent of instructor. Open only to graduate students. Supervised students work in schools, with youth programs, and in community service settings, implementing applied theatre projects. (Y)

**5500 Special Topics in Theatre. Cr. 1-3 (Max. 6)**

Open only to theatre majors. Specialized studies in theatre performance, history, criticism, management, design, and technology. Topics to be announced in Schedule of Classes. (T)

**5550 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. (F,W)

**5600 Study Abroad: Moscow Art Theatre School. Cr. 3**

Prereq: audition and/or interview. Intensive training in acting or another branch of theatre. Study is conducted on-site at the Moscow Art Theatre School, Moscow, Russia. (S)

**5650 (THR 5650) Study Abroad: Directed Study in Russian Theatre. (THR 7650) Cr. 1-3**

Coreq: THR 5600. Open only to theatre majors. Focused studies on Russian theatre, performance, design and production; directed studies in contemporary Russian. (S)

**6000 Foundations of Graduate Design. Cr. 2**

Open only to theatre students in M.F.A. program. 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, introduction to specific responsibilities and opportunities within the Hilberry Repertory Theatre. (F)

**6010 Studio I. Cr. 1-3**

Prereq: graduate standing. Open only to Hilberry company members in M.F.A. theatre program. 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. (F)

**6020 Studio II. Cr. 1-3**

Prereq: THR 6010. Open only to Hilberry company members in M.F.A. theatre program. Continuation of THR 6010. (W)

**6050 Voice and Speech for the Stage I. Cr. 1**

Open only to Hilberry company members in M.F.A. theatre program. Introduction to American standard speech using Edith Skinner's technique; introduction to FitzMaurice vocal technique. (F)

**6060 Professional Costume Design I. Cr. 3**

Prereq: THR 6000. Open only to theatre majors in M.F.A. program. Advanced exploration of the principles of costume design as it relates to Western theatrical literature. (I)

**6070 Theatrical Movement and Dance Styles I. Cr. 1**

Open only to Hilberry company members in M.F.A. theatre program. Pilates Method of body conditioning; learning and perfecting movements of the body at beginning and intermediate levels. (F)

**6080 Advanced Stage and Film Makeup. Cr. 2**

Prereq: THR 3050. Open only to theatre majors. Continuation of basic principles applied in THR 3050; emphasis on new makeup materials; experimentation with prosthesis and design for problem makeup. Material Fee as indicated in the Schedule of Classes. (I)

**6090 Professional Lighting Design I. Cr. 3**

Prereq: THR 5300 or consent of instructor. Open only to theatre majors in M.F.A. program. 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. (Y)

**6100 Voice and Speech for the Stage II. Cr. 1**

Prereq: THR 6050. Open only to Hilberry company members in M.F.A. theatre program. Continuing instruction in Skinner and FitzMaurice/Linklater. (W)

**6110 Theatrical Movement and Dance Styles II. Cr. 1**

Prereq: THR 6070. Open only to Hilberry company members in M.F.A. theatre program. Continuation of THR 6070. Advanced level. (W)

**6120 Development of the Drama II: Nineteenth Century to Modern. Cr. 3**

Open only to upper division or graduate theatre majors. Plays and theories of the theatre from the nineteenth century to modern times; relation of drama to an era and its theatre. (W)

**6160 Professional Costume Design II. Cr. 3**

Prereq: THR 6060. Open only to graduate theatre students in M.F.A. program. Advanced exploration of elements, genres, and styles of costume design as it relates to Western theatrical literature and conventions. Significant project work and research. (B:F)

**6190 Professional Lighting Design II. Cr. 3**

Prereq: THR 5300 or consent of instructor. Open only to graduate theatre students in M.F.A. program. Continuation of THR 6090. 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. (B:W)

**6210 Design Studio I. Cr. 2**

Prereq: THR 6000. Open only to M.F.A. design students in theatre. Studio study and application of graphics which support development and representation of the design idea. Rendering techniques, presentational styles, computer graphics. (W)

**6220 Design Studio II. Cr. 2**

Prereq: THR 6210. Open only to M.F.A. design students in theatre. Continuation of THR 6210. (F)

**6290 Professional Scenic Design I. Cr. 3**

Prereq: THR 6000. Open only to M.F.A. design students in theatre. Development of rendering techniques and personal aesthetics of scene design. Use of tools, materials, methods and applications for professional presentation of renderings. Laboratory projects. (B:W)

**6320 Leadership in the Theatre. Cr. 3**

Prereq: M.F.A. candidate in theatre management, or consent of instructor. 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. (T)

**6330 Sound Design and Technology. Cr. 3**

Prereq: THR 6000. Open only to M.F.A. design students in theatre. Aesthetics and technology which allow sound to act in support of theatrical production. Audio support of productions; research of styles of music and sources of audio effects; process of shaping materials for effective playback for performance. (I)

**6350 Human Resources and Financial Management for Theatres. Cr. 3**

Open only to M.F.A. theatre management students; or by consent of instructor. Topics include: leadership, group dynamics, staffing,

employment and production-related contracts, accounting and budgeting for non-profit. (I)

**6390 Professional Scenic Design II. Cr. 3**

Prereq: THR 6290. Open only to M.F.A. design students in theatre. Continuation of THR 6290. Advanced study for opera, ballet, children's theatre and divergent genres and styles. (B:F)

**6400 Styles of Design. Cr. 3**

Prereq: THR 6000. Open only to M.F.A. design students in theatre. 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. (W)

**6600 Costume History and Design I. Cr. 3**

Prereq: THR 6000. Open only to M.F.A. design students in theatre. 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. (B:W)

**6610 Costume History and Design II. Cr. 3**

Prereq: THR 6600. Open only to M.F.A. design students in theatre. Continuation of THR 6600. Historical trends in fashion from Jacobean England through the 21st Century. (B:F)

**6710 (THR 3710) World Performance Studies I. Cr. 3**

Prereq: consent of instructor; open by audition. 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. (F)

**6760 (THR 3760) World Performance Studies II. (THR 6760) Cr. 3**

Prereq: THR 6710 or consent of instructor. Advanced research/studio continuation of THR 3710/6710. Creation of original solo performances. Solo works and their makers (e.g., Anna Deveare Smith, Eric Bogosian, Laurie Anderson, etc.). (W)

**7010 Voice and Speech for the Stage III. Cr. 1**

Prereq: THR 6100. Open only to Hilberry company members in M.F.A. theatre program. Mastery of Narrow Transcription and Shakespeare (speech). Continuation of Fitz/Maurice/Linklater; introduction to Cecile Berry voice technique. (F)

**7020 Theatrical Movement and Dance Styles III. Cr. 1**

Prereq: THR 6110. Open only to Hilberry company members in M.F.A. theatre program. Period movement and dance, medieval through Renaissance; research of period material. (F)

**7040 Dramaturgy. Cr. 3**

Open only to graduate theatre majors. Study and preparation of dramatic texts for production; historical, socio-political and theoretical perspectives for production dramaturgy and literary management. (I)

**7050 Studio III. Cr. 1-3**

Prereq: theatre major in M.F.A. program; THR 6020. Open only to members of Hilberry Acting Company. Continuation of THR 6020. (F)

**7060 Studio IV. Cr. 1-3**

Prereq: theatre major in M.F.A. program; THR 7050. Open only to members of Hilberry Acting Company. Continuation of THR 7050. (W)

**7070 Repertory Theatre. Cr. 1-4 (Max. 18)**

Open only to theatre students in the M.F.A. program. Continuation of SPT 5040. Supervised experience in the Classic Theatre repertory program. (T)

**7075 Practicum for Theatre Management. Cr. 1-3 (Max. 18)**

Open only to students in M.F.A. theatre management program; or by consent of instructor. Supervised experience in various management assignments for WSU and for public relations activities for the Theatre Department. (I)

**7080 Advanced Theatre Laboratory. Cr. 1-3 (Max. 3; max. 9 for M.F.A. students with consent of instructor)**

Open only to theatre students in M.F.A. program; or by consent of instructor. Supervised laboratory practice in technical theatre and theatre management. (T)

**7090 Voice and Speech for the Stage IV. Cr. 1**

Prereq: THR 7010. Open only to Hilberry company members in M.F.A. theatre program. Continuation of Narrow phonetic transcription and Shakespearean phrasing; alliteration, antithesis, inflections, music; developing vocal power. (W)

**7100 Theatrical Movement and Dance Styles IV. Cr. 1**

Prereq: THR 7020. Open only to Hilberry company members in M.F.A. theatre program. Period movement and dance, Baroque and eighteenth century; research of period material. (W)

**7110 Studio V. Cr. 1-3**

Prereq: THR 7060. Open only to members of Hilberry Acting Company in M.F.A. theatre program. Continuation of THR 7060; further practical studies in various theatre crafts. (F)

**7120 Studio VI. Cr. 1-3**

Prereq: THR 7110. Open only to members of Hilberry Acting Company in M.F.A. theatre program. Continuation of THR 7110; further practical studies in various theatre crafts. (W)

**7130 Architecture and Decor. Cr. 3**

Open only to graduate students in theatre. Historical study of the form and elements of architecture and decoration; emphasis on theatrical design. Material Fee as indicated in the Schedule of Classes. (Y)

**7140 Theatrical Movement and Dance Styles V. Cr. 1**

Prereq: THR 7100. Open only to Hilberry company members in M.F.A. theatre program. Period movement and dance, Victorian and Edwardian eras; research of period material. (F)

**7150 Theatrical Movement and Dance Styles VI. Cr. 1**

Prereq: THR 7140. Open only to Hilberry company members in M.F.A. theatre program. Period movement and dance, 1900 to 1950; research of period material. (W)

**7160 Internships in Theatre Promotion. Cr. 1-6**

Open only to students in M.F.A. theatre program. Planning, organization and execution of projects in publicity, fund-raising and audience development; evaluation of project effectiveness. (F)

**7170 Internships in Theatre Management. Cr. 1-4**

Open only to students in M.F.A. theatre management program; or by consent of theatre director. Planning and execution of projects in theatre management; evaluation of project effectiveness. (W)

**7180 Voice and Speech for the Stage V. Cr. 1**

Prereq: THR 7090. Open only to Hilberry company members in M.F.A. theatre program. Introduction to dialect work; continuing development of vocal instrument. (F)

**7190 Voice and Speech for the Stage VI. Cr. 1**

Prereq: THR 7180. Open only to Hilberry company members in M.F.A. theatre program. Character work. (W)

**7200 Theatre Aesthetics. Cr. 3**

Open only to graduate students in theatre; or by consent of instructor. Contemporary and classical theories of performance in drama, musical theatre, and dance. Interactions of acting, design, music, dance, script, and audience. (Y)

**7210 Design Studio III. Cr. 2**

Prereq: THR 6220. Open only to M.F.A. students in theatre design. Continuation of THR 6220. (W)

**7220 Design Studio IV. Cr. 2**

Prereq: THR 7210. Open only to M.F.A. students in theatre design. Continuation of THR 7210. (F)

**7230 Design Internship. Cr. 3**

Open only to M.F.A. students in Scenery, Costumes, and Lighting Design. 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. (Y)

**7300 Fund Development and the Theatre. Cr. 3**

Prereq: candidate status in M.F.A. theatre management program; or consent of instructor. Fund-raising strategies and the arts. Topics include: individual (annual and planned) giving, corporate giving, grant-making. (I)

**7320 Entrepreneurship in the Theatre. Cr. 3**

Prereq: M.F.A. candidate in theatre management or consent of instructor. 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. (T)

**7330 Market Data and Decisions in Theatre. Cr. 1-2**

Prereq: M.F.A. candidate in theatre management or consent of instructor. Market data and analyzing techniques used in theatre; making informed short-term and long-term decisions. (T)

**7340 Sourcing and Managing Project Funds. Cr. 1-2**

Prereq: M.F.A. candidate in theatre management or consent of instructor. 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. (T)

**7350 Survey and Research Techniques for Theatre Managers. Cr. 3**

Prereq: candidate status in M.F.A. theatre management program; or consent of instructor. Performing arts research; methods for completion of research projects. Historical and literary research, market research, arts surveys. (I)

**7360 The Media and the Theatre. Cr. 1-2**

Prereq: M.F.A. candidate in theatre management or consent of instructor. 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. (T)

**7370 Managing Groups and Teams. Cr. 1-2**

Prereq: M.F.A. candidate in theatre management or consent of instructor. Relationships between teams; how teams can be utilized to improve work performance. Practices used to strengthen confidence in supervisory skills. (T)

**7380 Interpersonal Dynamics. Cr. 1-2**

Prereq: M.F.A. candidate in theatre management or consent of instructor. Relationships between individuals in the work environment; understanding differing behavioral styles amongst employees in the theatre. (T)

**7385 Board Governance in the Theatre. Cr. 1-2**

Prereq: M.F.A. candidate in theatre management or consent of instructor. How boards of directors govern theatres; how dynamics operate between management and boards. (T)

**7400 Research Methods in Theatre. Cr. 3**

Prereq: graduate standing in theatre degree program. Principles and methods of research and documentation; use of research aids and guides in theatre study and practice. (Y)

**7650 (THR 5650) Study Abroad: Directed Study in Russian Theatre. Cr. 1-3**

Open only to graduate theatre students. Focused studies on Russian theatre, performance, design and production; directed studies in contemporary Russian. (S)

**7860 (MUA 7860) Opera Workshop. Cr. 1 (Max. 4)**

Open only to theatre graduate students. Material Fee as indicated in the Schedule of Classes. (Y)

**7890 Seminar: Dramatic Literature. Cr. 3**

Open only to graduate theatre students. Study of selected dramatic genres, styles, periods, or playwrights. (B)

**7990 Directed Study. Cr. 1-4 (Max. 4)**

Prereq: consent of chairperson and graduate officer. Open only to graduate theatre students. (T)

**7991 Ph.D. Directed Study. Cr. 1-4 (Max. 4)**

Prereq: consent of chairperson or graduate officer. Open only to theatre doctoral students. (T)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: consent of advisor. Open only to theatre master of arts degree candidates. (T)

**8010 Advanced Theatre Practicum. Cr. 1-2 (Max. 11)**

Open only to theatre graduate students. Public performances in the dramatic productions of the University's Bonstelle Theatre. Credit determined by complexity of dramatic role performed. (T)

**8020 M.F.A. Exit Project. Cr. 1-3**

Prereq: last semester standing; prior consent by graduate supervisor and faculty advisor. Open only to members of Hilberry company in M.F.A. theatre program. (T)

**8050 M.F.A. Design Exit Project. Cr. 2**

Prereq: THR 6000. Open only to students in M.F.A. theatre design program. 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. (W)

**8100 Seminar: Theatre History. Cr. 3**

Open only to theatre graduate students. Selected topics in theatre history. (B)

**8190 Teaching Internship I. Cr. 1-3**

Open only to third year Hilberry fellows in M.F.A. or Ph.D. theatre program. Assisting faculty members in teaching first-semester undergraduate-level courses. (F)

**8200 Teaching Internship II. Cr. 1-3**

Open only to third year Hilberry fellows in M.F.A. or Ph.D. theatre program. Assisting faculty members in teaching second-semester undergraduate-level courses. (W)

**8500 Seminar: Directing. Cr. 3**

Prereq: one year of undergraduate directing or consent of instructor. Open only to theatre graduate students. 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. (B)

**8600 Seminar: Dramatic Theory and Criticism. Cr. 3**

Required for doctoral students. Open only to theatre graduate students. Major documents and principles of dramatic critics and theorists. (B)

**8700 Seminar: Research Topics in Theatre and Drama. Cr. 3**

Required for doctoral students. Open only to theatre graduate students. In-depth research on selected topics in theatre and drama. (B)

**8810 Seminar: Performance Studies. Cr. 3**

Open only to theatre graduate students. Study of performance as an organizing principle for analysis of a wide range of behaviors and situations. (B)

**8890 Proseminar. Cr. 1 (Max. 2)**

Prereq: admission to Ph.D. program; required during first two semesters in doctoral program. Open only to theatre graduate students. Departmental expectations are presented for doctoral core classes, qualifying examination, reading list, dissertation, and teaching assistant assignments. (Y)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. Open only to theatre master of arts degree candidates. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: THR 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following THR 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: THR 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following THR 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: THR 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following THR 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in THR 9991- THR 9994. Offered for S and U grades only.



# Law School

DEAN: Robert M. Ackerman

# Law School Calendar 2012-2014

## FALL TERM 2012

Priority Registration for Fall 2012 . . . . . To be determined - Sat., Aug. 25  
Orientation and Legal Writing Program Begins for All First Year Students  
(Day, Evening and Combined Program) . . . . . Mon., Aug. 20  
Law Classes Begin for All Law Students . . . . . Mon., Aug. 27  
Late Registration for Fall 2012 . . . . . Mon., Aug. 27 - Mon., Sept. 10  
Labor Day Recess . . . . . Mon., Sept. 3  
Last Day for Filing Degree Application . . . . . Fri., Oct. 5  
Priority Registration for Winter 2013 . . . . . Wed., Nov. 7\* - Sat., Dec. 29  
Day Scheduled as Thursday\*\* . . . . . Tues., Nov. 20  
Day Scheduled as Friday\*\* . . . . . Wed., Nov. 21  
Thanksgiving Recess . . . . . Thur., Nov. 22 - Sat., Nov. 24  
Classes End . . . . . Wed., Nov. 28  
Review and Reading Period . . . . . Thur., Nov. 29 - Wed., Dec. 5  
Law School Examination Period . . . . . Thur., Dec. 6 - Wed., Dec. 19  
Holiday Recess . . . . . Tues., Dec. 25 - Tues., Jan. 1  
Fall Term Ends . . . . . Mon., Dec. 31

## FALL TERM 2013\*

Priority Registration for Fall 2013 . . . . . To be determined - Sat., Aug. 24  
Orientation and Legal Writing Program Begins for All First Year Students  
(Day, Evening and Combined Program) . . . . . Mon., Aug. 19  
Law Classes Begin for All Law Students . . . . . Mon., Aug. 26  
Late Registration for Fall 2013 . . . . . Mon., Aug. 26 - Mon., Sept. 9  
Labor Day Recess . . . . . Mon., Sept. 2  
Last Day for Filing Degree Application . . . . . Fri., Oct. 4  
Priority Registration for Winter Term 2014 . . . . . Wed., Nov. 6\* - Sat., Dec. 28  
Day Scheduled as Thursday\*\* . . . . . Tues., Nov. 26  
Day Scheduled as Friday\*\* . . . . . Wed., Nov. 27  
Classes End . . . . . Wed., Nov. 27  
Thanksgiving Recess . . . . . Thur., Nov. 28 - Sat., Nov. 30  
Review and Reading Period . . . . . Thur., Nov. 28 - Wed., Dec. 4  
Law School Examination Period . . . . . Thur., Dec. 5 - Wed., Dec. 18  
Holiday Recess . . . . . Wed., Dec. 25 - Wed., Jan. 1  
Fall Term Ends . . . . . Tues., Dec. 31

## WINTER TERM 2013

Winter Term Begins . . . . . Tues., Jan. 1  
Open Registration for Winter 2013 (continues) Wed., Jan. 2 - Sat., Jan. 5  
Classes Begin . . . . . Mon., Jan. 7  
Late Registration for Winter 2013 . . . . . Mon., Jan. 7 - Mon., Jan. 21  
Martin Luther King Holiday - University Holiday . . . . . Mon., Jan. 21  
Last Day for Filing Degree Application . . . . . Fri., Feb. 8  
Priority Registration for Spring/Summer 2013 . . . . . To be determined  
Law School & University Spring Recess . . . . . Mon., Mar. 11 - Sat., Mar. 16  
Classes Resume . . . . . Mon., Mar. 18  
Priority Registration for Fall 2013 . . . . . To be determined  
Open Registration for Spring/Summer 2013 . . . . . To be determined  
Classes End . . . . . Mon., Apr. 15  
Review and Reading Period . . . . . Tues., Apr. 16 - Mon., Apr. 22  
Law School Examination Period . . . . . Tues., Apr. 23 - Mon., May 6  
Law School Term Ends . . . . . Mon., May 6  
University Commencement . . . . . To Be Announced  
Law School Commencement To Be Announced

## WINTER TERM 2014\*

Winter Term Begins . . . . . Wed., Jan. 1  
Open Registration for Winter 2014 (continues) Thur., Jan. 2 - Sat., Jan. 4  
Classes Begin . . . . . Mon., Jan. 6  
Late Registration for Winter Term 2014 . . . . . Mon., Jan. 20  
Martin Luther King Holiday - University Holiday . . . . . Mon., Jan. 20  
Last Day for Filing Degree Application . . . . . Fri., Feb. 7  
Priority Registration for Spring/Summer Term 2014 . . . . . To be determined  
Law School & University Spring Recess . . . . . Mon., Mar. 10 - Sat., Mar. 15  
Classes Resume . . . . . Mon., Mar. 17  
Priority Registration for Fall 2014 . . . . . To be determined  
Open Registration for Spring/Summer 2014 . . . . . To be determined  
Classes End . . . . . Mon., Apr. 14  
Review and Reading Period . . . . . Tues., Apr. 15 - Mon., Apr. 21  
Law School Examination Period . . . . . Tues., Apr. 22 - Mon., May 5  
Law School Term Ends . . . . . Mon., May 5  
University Commencement To Be Announced  
Law School Commencement To Be Announced

## SUMMER TERM 2013

Classes Begin . . . . . Mon., May 20  
Late Registration for Summer Term 2013 . . . . . Mon., May 20 - Fri., May 24  
Memorial Day Recess . . . . . Mon., May 27  
Day Scheduled as Monday\*\* . . . . . Fri., May 31  
Day Scheduled as Thursday\*\* . . . . . Fri., June 28  
Independence Day Recess . . . . . Thurs., July 4  
Classes End . . . . . Fri., July 5  
Law School Examination Period . . . . . Mon., July 8 - Fri., July 12  
Summer Term Ends . . . . . Wed., July 31

## SUMMER TERM 2014\*

Classes Begin . . . . . Mon., May 19  
Late Registration for Summer 2013 . . . . . Mon., May 19 - Sat., May 24  
Memorial Day Recess . . . . . Mon., May 26  
Day Scheduled as Monday\*\* . . . . . Fri., May 30  
Day Scheduled as Thursday\*\* . . . . . Fri., June 27  
Classes End . . . . . Thur., July 3  
Independence Day Recess . . . . . Fri., July 4  
Law School Examination Period . . . . . To be determined  
Summer Term Ends . . . . . Thur., July 31

\* Calendar dates are tentative. This Calendar applies to the Law School ONLY. The general University Calendar appears on page 4.

\*\* To make up for class days lost due to the observance of holidays, substitute class days are scheduled.

# The Study of Law at Wayne State University

## History and Goals of the Law School

Wayne State University Law School has been a source of lawyers for Michigan and the rest of the nation for more than eighty years. A group of public-spirited lawyers led by Judge Allan Campbell, in cooperation with the Detroit Board of Education, established the new law school in 1927 as part of the Colleges of the City of Detroit. The Law School and other colleges flourished and were subsequently renamed Wayne University. In 1956, the University joined the University of Michigan and Michigan State University as one of Michigan's three major universities, and was renamed Wayne State University.

Wayne State University is an institution dedicated to excellence in education and research. The focus of the Juris Doctor (J.D.) program is preparation of lawyers for the wide variety of professional opportunities available with law firms, corporations, public interest groups, government, prosecutors' and defenders' offices and many other law-related fields. The rich and varied educational program not only teaches the legal rules by which business and personal affairs are governed in a complex society, but also instills an appreciation of the larger role of the legal profession as it shapes society's values and institutions. The program emphasizes experiences designed to develop the skill of written expression, and provides oral advocacy training in trial and appellate settings. In addition to the traditional classroom component, the Law School offers the opportunity to enrich legal education with real-life legal experience. Students are encouraged to take advantage of the special opportunities available in the Detroit metropolitan area for internships with judges, prosecutors' and defenders' offices and public interest law practices.

The Law School's faculty is actively involved in scholarly research. Professors at Wayne State University Law School make significant contributions to the understanding of issues in environmental law, taxation, criminal procedure, constitutional law, antitrust law, intellectual property law, urban law and many other fields. Their books and articles contribute to the depth and quality of classroom teaching.

The Law School takes great pride in its diversity. The full-time faculty includes individuals experienced in local, state and federal government, others who have served as judicial clerks for federal judges, a number with backgrounds in private practice, and others who are well-known public interest advocates. They combine excellent academic credentials with practical experience. The faculty is committed to classroom teaching excellence and to advancing the state of professional knowledge through scholarship. The Law School is also fortunate to have excellent part-time faculty from the metropolitan Detroit area. Respected judges and practitioners bring valuable and specialized professional perspectives to the adjunct faculty.

## Accreditation and National Recognition

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. Membership is limited to the top ten percent of each graduating class, elected by the faculty. In establishing its chapter of the Order of the Coif, Wayne State University Law School has joined other elite law schools in promoting exceptional accomplishment in legal studies.

## Law School Setting

Wayne State University is located in the heart of the University/Cultural Center area about four miles from downtown Detroit. Within a few blocks of the Law School are the Detroit Public Library, the Detroit Institute of Arts, the International Institute, the Detroit Historical Museum, the Detroit Science Center and the Museum of African-American History. South of the main campus area are the Detroit Medical Center and the Wayne State University Medical School. State and federal courts and offices are concentrated in the downtown area.

The Law School is located on the main campus convenient to the major University library complex and the University's Hilberry Theatre, which houses one of the most distinguished graduate theater repertory companies in the United States. In 2001, the Law School dedicated a new 58,000-square-foot building, which houses classrooms, student publication offices, the law clinic, and faculty and administrative offices. A highlight of the building is the 250-seat Spencer M. Partrich Auditorium, which is equipped for lectures and trial and appellate court sessions (including judges' chambers and a jury room). The newest addition to the Law School, completed in fall 2011, is the Damon J. Keith Center for Civil Rights, a 10,000-square-foot structure that houses a program dedicated to the promotion of equality and justice under law. The Law School complex also includes the Classroom Building (five auditoriums with terraced seating) and the Law Library building.

## Arthur Neef Law Library

The Arthur Neef Law Library is the second-largest academic law library in Michigan, and among the top forty within the United States. With over 640,000 print volumes and microform volume equivalents, the Law Library is the major legal research center for Wayne Law faculty and students, members of the local bench and bar, Wayne State alumni, and the Detroit and Wayne County communities.

The resources of the Law Library support research in United States federal and state law, international law, and the law of selected foreign jurisdictions. In addition to current Michigan legal resources, the Law Library maintains comprehensive historical collections that document the development of Michigan law. Among these are the Michigan Supreme Court Records and Briefs from 1854 to date, legislative bill analyses and Michigan constitutional convention journals and proceedings. The Law Library is also a selective depository for U.S. government publications and provides public access to these resources in print and digital formats.

The Law Library's Special collections include the Alwyn V. Freeman International Law Collection, the Driker Antitrust Law Collection, the Jewish Law Collection, Michigan probate court opinions, Michigan Superfund site documents, U.S. Supreme Court Records and Briefs (original volumes from 1897-1935 and microfiche to date), and the U.S. Congressional Serial Set from 1818 to date. The Law Library's extensive digital resources are accessible through its home page at <http://www.lib.wayne.edu/>.

The total combined collections of the University's seven libraries exceed three million volumes. All Wayne State students and faculty have access to the resources in the Shiffman Medical Library, the Purdy/Kresge Graduate Library, the Science and Engineering Library, the Adamany Undergraduate Library, the Reuther Library and the Oakland Center Library. These collections provide extensive support for multidisciplinary research. Resources that are not part of the Wayne State University Library System may be obtained quickly for WSU faculty and students from other libraries within the state and beyond. The collections of the Detroit Public Library and the Detroit Institute of the Arts are within walking distance from the Law School and are accessible through the Detroit Area Library Network (DAL-NET).

The Law Library building was designed to make optimal use of natural light in reading and study areas. Tables and carrels, in addition to comfortable seating areas, are available throughout the Law Library and offer wired and wireless access to networked resources. Fourteen study rooms located throughout the library are reserved for the exclusive use of Wayne Law students.

A twenty-four station computer lab, featuring personal computers and printers, is also situated within the Law Library. Additional public computer workstations within the library offer easy access to the online catalog and other digital resources. While on campus, Wayne Law students also have access to more than 1,700 computers in other WSU libraries.

Virginia C. Thomas serves as Director of the Law Library. She is assisted by a staff of professional lawyer/librarians and experienced technical staff. Reference and research assistance are available on-site and online through the library's Ask-A-Librarian link at <http://ask.lib.wayne.edu/>

## LAW DEGREES

The Law School offers academic programs leading to the degrees of Juris Doctor (J.D.) and Master of Laws (LL.M.). 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.

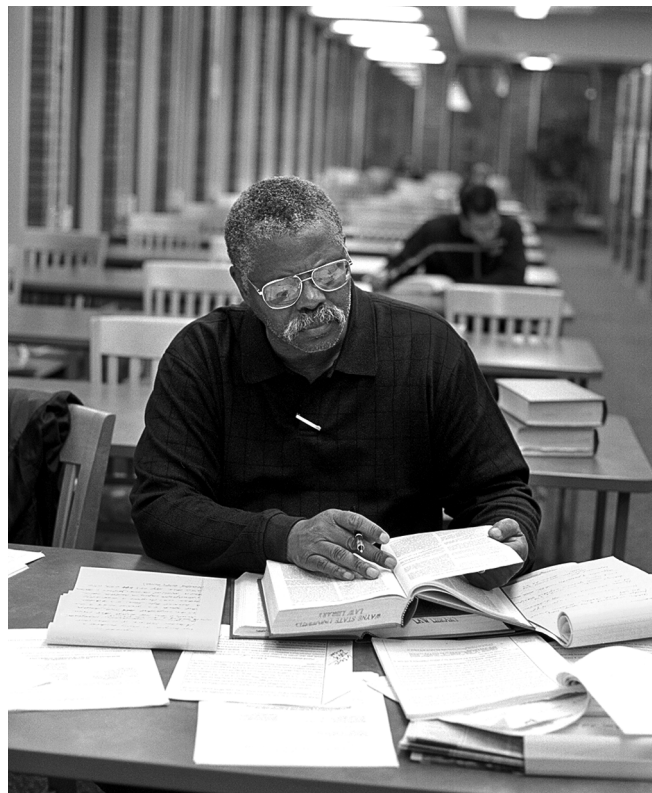
### *JURIS DOCTOR*

*MASTER OF LAWS in Corporate and Finance Law*

*MASTER OF LAWS in Labor and Employment Law*

*MASTER OF LAWS in Taxation*

*MASTER OF LAWS in United States Law*



# Juris Doctor (J.D.)

## Admissions

For a complete statement of the admissions procedures and requirements for the J.D. degree as well as recommended preparation for the study of law see page 256.

## Degree Requirements (J.D.)

The Juris Doctor degree is conferred upon students who are admitted as candidates for the degree and who have satisfactorily completed eighty-six credits of LEX courses in accordance with the Academic Regulations of the Law School and including the following:

**1. Required Courses:** Completion of each of the following required courses with final grades of at least 'D' and LEX 6400 with a minimal grade of 'LP':

- LEX 6100 -- Civil Procedure A: Cr. 3
- LEX 6101 -- Civil Procedure B: Cr. 3
- LEX 6200 -- Contracts A: Cr. 3
- LEX 6201 -- Contracts B: Cr. 3
- LEX 6300 -- Criminal Law: Cr. 3
- LEX 6400 -- Legal Research and Writing: Cr. 2 (4 req.)
- LEX 6500 -- Property: Cr. 4
- LEX 6600 -- Torts: Cr. 4
- LEX 6700 -- Constitutional Law I: Cr. 3
- LEX 6800 -- Professional Responsibility & the Legal Profession: Cr. 2
- LEX 6900 -- The Regulatory State: Cr. 3

**2. Upperclass Writing Requirement:** All students must participate in one or more programs offering a rigorous writing experience after their first year.

**3. Professional skills:** Completion of a professional skills course, one chosen from among the courses approved by the faculty to fulfill this requirement.

**4. Residence Credit:** Accrual of at least three residence credits (not to be confused with course credits or part of the eighty-six credits cited below) defined as follows: Students receive a half-year (.5) of residence credit for each semester of ten course credits or more and a quarter-year (.25) of residence credit for each summer term of five course credits or more. Fewer course credits earn residence credit at the ratio of .05 residence credits per course credit. Students may not earn more than .5 residence credits for a fall or winter term nor more than .25 residence credits for a summer term.

**5. Course Credits:** Completion of a minimum eighty-six semester credits and overall average of 'C' (2.0) or better on all credits completed.

**6. Residence:** The final year of study must be completed at this Law School.

**7. Time Limitations:** Students who enter law school as full-time students have up to five years to complete degree requirements; students who enter as part-time students have up to six years to complete degree requirements.

**8. Degree Application:** Students must apply for the degree in the Law School Records Office at the beginning of the semester in which they plan to complete degree requirements.

## Law School Academic Regulations

The faculty of the Law School has adopted academic regulations which cover degree requirements, examinations and other academic matters. Compliance with the regulations is required of all law students. The Academic Regulations are available in the Law School Records Office or on the Law School website: <http://www.law.wayne.edu>

## First-Year Programs

The Law School offers three programs for the first year of law study. Students may enroll in a full-time day program, a full-time combined day/evening program or a part-time evening program. All first-year programs begin only in the fall term.

Students in the first-year day program must enroll in all required courses (see page 265): Property, Torts, Contracts A and B, Civil Procedure A, Constitutional Law, Criminal Law, The Regulatory State, and Legal Research and Writing. First-year day students should not be engaged in employment, even on a part-time basis.

The combined program is designed to meet the needs of students who wish to complete law school in three years, but who prefer to take several evening classes. In their first year students take three of the required first-year courses in the evening, as well as one or two required courses each semester during the day. In the second year, they take in the evening any first-year required course they did not complete in their first year of law school and may take additional upperclass courses in the day or evening division. Combined-program students who attend full time may complete the J.D. degree in three years. Combined-program students enrolled in twenty-seven or more credits for the first academic year are strongly discouraged from employment, even on a part-time basis, during the first year of law school.

Students in the first-year evening program must enroll in all three required courses each term. Classes meet from 6:10-8:10 pm Monday through Thursday. Property, Torts, Criminal Law and Constitutional Law I are required in the second year. Students who begin law school in the evening division and enroll in eight credits per semester can complete requirements for the J.D. degree in five and one-half years. Students who begin in the part-time program are permitted up to six years to complete the degree. Evening students may accelerate their completion by taking more than eight credits per semester and by taking courses in the summer term. A part-time evening student may elect to become full-time after the first year. The student is required to take the Property, Torts and Criminal Law courses in the evening, but may concurrently enroll in day courses to make a full-time schedule.

## Upper-Class Program

After completion of the first-year program, students may choose from among a large number of elective courses and seminars covering a broad range of subjects (see page 265). Students may elect courses that meet in the day or evening or a combination of day and evening. It is not uncommon for evening students to elect from day classes and vice versa, and for upper-class students to change from one program to the other. Both day and evening upper-class students may accelerate by electing courses in the eight-week summer semester.

Law students interested in interdisciplinary study, but who do not want to pursue a joint degree, may elect up to four law-related graduate level courses in other departments of Wayne State University. One graduate level course may be elected each semester after completion of the first year, and J.D. credit for graduate courses must be approved in advance by the Assistant Dean of Students.

## Opportunities for Research and Writing

The Law School offers first-year students an excellent foundation in research and writing, including training in computer research. Upper-class students have the opportunity to pursue research in areas of their interest and enhance their writing skills by electing from the wide variety of courses, seminars and directed studies, and by participation as a member of the *Wayne Law Review* or the *Journal of Law in Society*.

## Legal Research and Writing Courses

The Legal Research and Writing Program offers three courses: Legal Research and Writing (LEX 6400, Cr. 2), two semesters of which are required for first-year students, as well as Legal Writing: Advanced (LEX 7536, Cr. 3) and Legal Drafting (LEX 7520, Cr. 3), available to upper-class students. Under the leadership of the Director of Legal Research and Writing, the program has earned an outstanding reputation. The Director and five other full-time instructors are experienced teachers who practiced law or were judicial clerks prior to teaching. The first-year Legal Research and Writing course begins with an intensive orientation program, which introduces new students to the court system, the case method of legal education, and methods of legal analysis. Following orientation, the Legal Research and Writing course meets once a week. Students also meet with their instructors in individual conferences. Course enrollment is small to allow for maximum student-teacher interaction and timely feedback on assignments. In the fall semester students research legal issues using Law Library materials and computer legal research resources and complete a series of memoranda designed to improve legal writing and analysis skills. In the winter semester the Legal Research and Writing course focuses on appellate advocacy skills; the major assignment is an appellate court brief based on a comprehensive trial court record and lower court decision. Students also negotiate and draft a settlement agreement, based on the appellate problem. Students end the course by presenting an argument based on their brief to a three-judge mock appellate court composed of local attorneys, many of whom are graduates of this program. To prepare for their argument, students may attend sessions of state and federal trial and appellate courts whose judges visit the Law School and hear arguments in actual cases. Students also practice their arguments before upper-class students in the Moot Court program.

After completion of the first-year Legal Research and Writing course, students may elect either of the advanced writing courses (LEX 7520 and 7536). Enrollment in these courses is limited to fourteen students to encourage student participation in discussions and to permit students to engage in peer review.

## Seminars and Directed Studies

The Law School provides numerous opportunities for students to engage in research and writing under faculty supervision. After the first year, students may enroll in a directed study (LEX 7990) for one or two credits and research and write a paper under the supervision of a member of the faculty. The number of credits and scope and subject matter of the project are determined by the faculty member who supervises the research and grades the paper. A maximum of four credits of directed study may be approved for the eighty-six credits required for the J.D. degree. Students with a special interest in commercial law may enroll in Commercial Law: Directed Research (LEX 7106), engaging in research projects the first year and may also enroll a second year and complete a writing project in that year.

Students also have opportunities to engage in research and writing by enrolling in one of a large selection of seminars offered by full-time faculty members in their areas of specialty. Seminar enrollment is limited to twenty-five or fewer students to encourage the widest possible participation in class discussion. Students enrolled in a seminar complete a substantial analytic paper and may have the opportunity to share their paper with the other students in a discussion format. The faculty encourages students to publish their written work in law journals and other periodicals. A number of prizes are awarded each year for scholarly writing.

## The Wayne Law Review and The Journal of Law in Society

The *Wayne Law Review*, published since 1954, is one of the Law School's official scholarly journals. Three of the four annual issues include articles of general academic and professional interest authored by practicing attorneys and law professors, as well as comments written by Law Review members. A fourth issue is an annual survey of developments in Michigan law and is widely read by members of the Michigan legal community. In addition to providing a forum for the discussion of important legal issues, *The Wayne Law Review* offers an opportunity for students to enhance their research and writing skills and further their knowledge of the law.

Students are invited to join *The Wayne Law Review* on the basis of the writing competition held each spring. Each student selected serves as an assistant editor, and, in addition to weekly editing assignments, is required to write an article of publishable quality on a legal topic of his or her choice. The Law Review facilities include separate offices for the executive board editors, individual carrels for each member, a library with a complete set of Michigan materials and modern computer research and word processing equipment.

After the first year of participation, students may take on significantly greater responsibility by election to the senior editorial board. The board, selected from among the first-year members by the prior year's board, both manages the publication of the journal and selects and edits the articles to be published. All senior members have the option of writing an additional article. The Gushée Prize is awarded to the junior or senior member who writes the best article published each year. For all members, Law Review involves a significant time commitment, but it offers an unparalleled opportunity for growth in understanding legal issues and a prestigious credential well-recognized by the judiciary and the practicing bar.

*The Journal of Law in Society* provides a forum for the scholarly evaluation of the law in relation to various segments of society. It often contains articles which are an outgrowth of an annual symposium the Journal offers each spring on topics such as affirmative action, environmental justice, reparations for slavery, school vouchers, and gentrification. Students are chosen on the basis of their performance in a writing competition which is held each spring.

## SPECIAL CURRICULAR PROGRAMS

### Internships

Taking advantage of its location at the center of one of this country's largest metropolitan areas, the Law School offers students a broad range of opportunities for practical legal training through its internship program. The program is a cooperative effort between the Law School and various courts, prosecutor and public defender offices, and nonprofit law offices and governmental agencies. Under standards established by the Law School, the work of student interns is supervised directly by practicing attorneys. Students have served as interns for academic credit for justices of the Michigan Supreme Court, judges of the Michigan Court of Appeals and many state circuit courts as well as judges of the United States Court of Appeals and District Courts. They have also served as interns in many prosecutors' offices and at the State Appellate Defender Office. Internships provide experiences in specialty areas such as tax law (Internal Revenue Service District Counsel) and labor law (National Labor Relations Board and the Equal Employment Opportunity Commission). Over twenty-five government offices and nonprofit agencies and numerous judges participate in the internship program.

Internships, which are open to upper-class students in good standing, give student participants a chance to apply the important analytical skills learned in the classroom to the solution of real legal problems. An internship with a court, for example, can provide students with insight into the operation of courts that cannot be provided

easily in the classroom. Students interested in doing an internship must obtain the consent of the Director of Clinical Education. Students spend from eight to twelve hours per week in the fall or winter semesters and sixteen to twenty-four hours per week in the shorter summer semester in the field on work relating to their internship and receive two or three credits for the semester's work. In addition, students take an internship class that meets regularly throughout the semester.

### Intellectual Property Law Institute (I.P.L.I.)

Since several Wayne State University Law School faculty members are experts in areas of intellectual property law, the Law School is able to offer a remarkable variety of courses in such areas as patent, copyright and trademark law.

In addition to these courses, Law School students have the opportunity to take courses at another Detroit law school and at a law school across the border in Canada through the Intellectual Property Law Institute (I.P.L.I.). The Institute was created in 1987 as a cooperative effort of the law faculties of Wayne State University, the University of Detroit Mercy and the University of Windsor in Ontario. The Institute offers an exceptional, rich curriculum for law students with courses and seminars in patent, copyright, trademark, computer and related technology, communications and media law and entertainment law. Law students who enroll in I.P.L.I. courses pay tuition to their home institution. Wayne State students receive transfer credit for I.P.L.I. courses taken at the other law schools.

### Damon J. Keith Center for Civil Rights

The Damon J. Keith Center for Civil Rights honors the life and legacy of Judge Keith, Senior Judge for the United States Court of Appeals for the Sixth Circuit, through its mission of promoting equality and justice under law. The Center maintains the Damon J. Keith Law Collection of African American Legal History, sponsors the Keith Biennial Lecture, and provides a range of other programming. It is housed in a 10,000-square-foot building that was completed in fall 2011.

### International Programs and Publications

Wayne State University Law School offers a large number of courses in the area of international law. In addition to the courses at Wayne State, students can take courses at the University of Windsor Faculty of Law just across the border in Canada. The Law School also sponsors two international student exchange programs, a fellowship for summer study at the Hague, and houses a leading publication project in the field of international and comparative criminal law. The Law School's Program for International Legal Studies presents an outstanding speaker series, conducts International Law Week, and serves as the focal point for a wide array of resources aimed at students interested in international law.

### JOINT DEGREE PROGRAMS

Law students may pursue joint degree programs in law and economics, law and history, law and political science, law and business administration, and law and dispute resolution. The programs lead to receipt of a J.D. from the Law School and a M.A. from the Economics, History or Political Science Departments of the College of Liberal Arts and Sciences, or a M.B.A. from the School of Business Administration, or a Master of Arts in Dispute Resolution (M.A.D.R.) from the College of Fine, Performing and Communication Arts. Students must be admitted separately to the J.D. and the master's degree programs. Each of the joint degree programs contemplates that the student spend his or her first year taking law courses followed by two-and-a-half to three years of concurrent studies.

## Law and Business Administration

Law students who wish to enroll in the joint program leading to the J.D. and M.B.A. degrees may apply for admission to the M.B.A. program at the School of Business Administration during their first year of law school. As a part of the application process, the student will have to take the Graduate Management Admission Test (G.M.A.T.). In the M.B.A. program, students may choose from courses in the areas of accounting, finance and business economics, industrial relations, international business, management and organizational behavior, information systems, personnel/human resources, management marketing, quality management and taxation. In the J.D. program, students may enroll in a wide variety of courses in commercial and banking law, corporate, business and antitrust law, tax law and labor and employment law. Students who have met pre-M.B.A. foundation requirements ordinarily will be able to meet both J.D. and M.B.A. degree requirements in four years of full-time study.

## Law and Dispute Resolution

The joint program in law and dispute resolution leads to the receipt of a J.D. degree from the Law School and a Master's degree in Dispute Resolution from the Dispute Resolution Program of the College of Fine, Performing and Communication Arts. Law students may apply to the Master's in Dispute Resolution program at any time before their second year of law school. After acceptance, they may start their studies in the dispute resolution program after successful completion of their first year of law studies. The overall objective of the joint program is to provide law students with breadth and depth in alternative dispute resolution strategies. The joint degree program can be completed in three and one-half years.

## Law and Economics

The joint degree program in law and economics leads to the receipt of a J.D. from the Law School and an M.A. from the Economics Department of the College of Liberal Arts and Sciences. Law students may apply to the Economics Department for admission to the M.A. program, and upon admission may enroll in economics courses after successful completion of their first year of legal studies. Law students will acquire breadth and depth in economic concepts and statistical methods that are used to an increasing extent in trials. The joint program may be completed in as little as one semester more than the three-year period normally required for the J.D. degree alone.

## Law and History

The joint degree program in law and history leads to the receipt of a J.D. from the Law School and an M.A. from the History Department of the College of Liberal Arts and Sciences. Law students may apply to the History Department for admission to the M.A. program, and upon admission may enroll in history courses after successful completion of their first year of legal studies. In the M.A. program, students may focus their studies on chronological history, including Roman, Western European and American backgrounds of law; on subjects related to specific areas of law practice such as labor, business or political history; or on the historical context of the lawyer's role in public policy making in domestic and international affairs. The joint degree program can be completed in three-and-one-half to four years of full-time study. A brochure more fully describing the joint degree program in law and history is available from the History Department.

## Law and Political Science

The joint program in law and political science permits a student to obtain both the J.D. degree and an M.A. in political science with a concentration in public policy. Students interested in the joint program should apply to the Political Science Department for admission

to the M.A. program during their first year of Law School. As part of the M.A. program students may take courses focusing on public policy, political institutions and processes, and economics. Both a master's essay and written comprehensive examination are required for the M.A. degree in political science. As part of the J.D. program, students may take courses in constitutional law, administrative law and other areas of government law. The joint degree program generally requires four years of full-time study.

## Other Graduate Study

Law School students may pursue a master's or other graduate degree in fields other than business administration, economics, dispute resolution, history or political science concurrently with their legal education. Upon completion of their first year of legal studies, students may apply to the appropriate school or college of the University for admission. If admitted, students may divide their time between the Law School and the concurrent program of study, devoting sufficient time to each to meet the academic and residence requirements of both schools. Students are not allowed to apply credit for law courses toward another graduate degree or to apply credit toward the J.D. degree for course work taken in another graduate program other than in the approved joint degree programs.

## Bar Admission

Applications and information about the Michigan Bar Examination can be obtained by writing to the State Bar of Michigan Committee on Character and Fitness, 306 Townsend, Lansing, Michigan 48933-2083. Students who contemplate practicing law in states other than Michigan should consult bar examiners of those states at the earliest opportunity regarding the requirements of such states. In several states, prospective candidates are required to notify the bar examiners of their intention of taking the examination upon graduation when they begin law study.

Although the curriculum of the Law School is not primarily designed for preparing students to pass the various state bar examinations, substantially all of the subject matter of the examinations is covered adequately in the regular courses. The objective of the Law School is the development of an understanding of the theory of law, its application and the techniques of practice — in other words, to prepare a student for the practice of law.

# Admissions Policies and Procedures

## Preparation for Law Study

The Law School has no requirements with respect to the content of pre-legal education, but the Admissions Committee will take into account the nature of college work completed as well as the grades achieved. Proficiency in the English language, both written and spoken, and in analytical skills is essential to the study of law.

The suggestions for prelaw preparation in *The Official Guide to A.B.A.-Approved Law Schools*, published by the Law School Admission Council, are excellent. This guide contains material on the legal profession and the study of law, and information on each American Bar Association (A.B.A.) accredited law school. It may be ordered from the Law School Admission Services (LSAS) in Newtown, Pennsylvania, and is available in most bookstores and libraries. Prospective students are welcome to come into the Wayne State University Law School Admissions Office during regular office hours to look at the official guide and other law school reference materials.

## Admissions Policy

An applicant for admission to the Wayne State University Law School J.D. program must have a bachelor's degree from a regionally-accredited college or university upon matriculation. (Prior to registration, each admitted student must arrange for the Law School to receive an official transcript from the degree-granting institution as proof of the grant of the degree.) Each applicant must also take the Law School Admission Test (LSAT) and register with the Law School Credential Assembly Service (CAS). Applicants should take the LSAT no later than February of the year in which they intend to enroll. The Admissions Office will accept LSAT scores up to five years old.

It is the goal of the Law School's Admissions Committee to ensure that the entering class is composed of the most highly qualified applicants. The Committee believes that, initially, the educational process during law school and the legal profession are best served by an admissions process that results in the selection of a diverse and talented student body.

The Committee considers the following factors in reaching admissions decisions:

1. The applicant's academic achievement and potential, as shown by the LSAT score and undergraduate grade point average;
2. Any special features of the applicant's academic record which may have had an impact on his or her grade point average, such as the age of the undergraduate grades or any marked improvement in grades shown in the later years of college;
3. Other relevant personal qualities and characteristics of significance, such as socioeconomic and educational disadvantage, work and volunteer experience, leadership qualities, commitment to community service and communication skills. Applicants are urged to discuss any or all of these relevant factors in their personal statement, which is required as part of the application process.

## Admission Reconsideration

An applicant may request reconsideration of an adverse admissions decision by writing a letter to the Assistant Dean of Admissions stating the specific reasons why reconsideration is merited. The application will then be reviewed and reconsidered by the Admissions Committee. In the past, applicants who have successfully petitioned for reconsideration are those who have submitted updated information such as new test scores or additional grades.

## Deferred Admissions

The Law School does not defer admissions except for persons called to military service. Any admittee who withdraws from the class must submit a new application and fee for the next year for which he or she seeks admission.

## Reduced Program

The first-year day program curriculum is mandatory, but day students who have child care responsibilities or significant health care concerns may be permitted to take a slightly reduced course load. The applicant must submit a written request prior to registration to the Assistant Dean of Admissions setting forth the personal circumstances justifying the request for admission as a reduced-load student.

## A Visit to the Law School

Prospective applicants are encouraged to visit the Law School and tour the Law School and University campus, attend a first-year class, participate in informal discussions with students about law school, and consult with a member of the Admissions Office staff about admissions policies, procedures and other concerns.

## Application Procedures

There is considerable competition for the entering class at Wayne State University Law School. The Law School received 1,087 applications for the class entering fall 2011, and about 44 percent of the applicants were offered admission. The median undergraduate grade point average of the 2011 entering class was 3.39 and the median LSAT score was 157. Applicants for admission to the first-year class are admitted to the fall term only.

### Instructions to Apply for Admission to the First-Year Class

Applications for admission are accepted beginning October 1 and the application deadline is March 15. Late applications will receive less favorable consideration. To receive priority consideration for merit-based scholarships, all application materials for first-year admission must be received in the Admissions Office by January 15. No separate application is required for scholarships.

The applicant's file will be considered complete when the Admissions Office has received all of the following:

1. The Law School online Application for Admission with an electronic signature;
2. The nonrefundable application fee of \$50. Payment is made through the LSAC credit card fee collection service;
3. A personal statement written by the applicant, using his/her own words, conveying information not in the application that the applicant feels the Admissions Committee would find helpful in assessing the candidate. The Law School does not grant requests for personal interviews, so it is important for the applicant to include any special circumstances or other relevant factors in his or her personal statement;
4. The JD-CAS report, which will include the applicant's LSAT score(s) and copies of the transcripts from all of the U.S. undergraduate schools the applicant has attended. The applicant must direct each U.S. undergraduate school attended to send a transcript to JD-CAS. Applicants educated outside the U.S., its territories or Canada must make use of a credential evaluation service. The School prefers use of the JD-CAS, but it will also accept evaluations from organizations that are members of the National Association of Credential Evaluation Services or the Association of International Credentials Evaluators;
5. Two letters of recommendation from individuals such as college professors or others who can comment on the applicant's intellectual



abilities and academic performance. An employer may submit recommendation letters for applicants who have been out of school for a number of years. Letters of recommendation should be sent directly to LSAC Law Services. (Additionally, two LSAC evaluations are recommended but not required.)

## Admissions Decisions

Applicants with high LSAT scores and grade point averages are administratively admitted. Applicants who are not administratively admitted are placed in the discretionary pool. The Admissions Committee reviews applications from the discretionary pool and decides whether to admit, deny or wait list the applicant. The Admissions Committee is composed of Law School faculty members assisted by administrative staff. The administrative staff provides information, recommendations and other assistance to the faculty members who vote on the individual applications.

## Transfer Applicants

A transfer applicant must have completed all of the first-year day or evening courses required by his or her ABA-accredited law school. Applicants must have superior law school academic credentials to be offered admission. Transfer students are admitted to the fall term only. The application deadline for transfer applicants is July 1.

A transfer applicant's file will be considered when the Admissions Office has received all of the following:

1. The Law School online application with an electronic signature;
2. The non-refundable application fee of \$50. Payment is made through the LSAC credit card fee collection service;
3. An official transcript sent directly from the applicant's law school with all grades posted for the academic year;
4. A letter of good standing from the applicant's law school;
5. A copy of the applicant's JD-CAS report;

**Guest Student Applicants for Fall and/or Winter Term(s):** The transfer applicant requirements and procedures outlined above apply to a law student who wishes to enroll at Wayne State University Law School for one or two terms as a guest student. In the case of a guest student, the letter of good standing should also include a statement granting permission for the applicant to attend Wayne State University Law School for the semester(s) indicated, an agreement to accept credits earned at the Law School and any other requirements or limitations from the "home" school.

**Guest Student Applicants for Summer Term:** A student from another ABA-accredited law school may take one or two summer courses at Wayne State University Law School provided the student is in good standing and receives permission from his or her "home" law school. Application should be made on the Law School online Summer Guest Application form. The application deadline is May 14 for summer term.

# Master of Laws (LL.M.)

The graduate program offers the degree of Master of Laws (LL.M.) in three fields of law: corporate and finance law, labor and employment law, and taxation. Students must choose one of these areas of concentration when they apply for admission. The program can be undertaken on either a full-time or part-time basis.

In addition to receiving credit for LEX courses offered by the Law School, an LL.M. student may also receive credit for some graduate courses offered in other departments of the University. Such courses must be related to the student's field of study and must be approved by the Law School's Director of Graduate Studies.

## Admission Requirements

Admission to the LL.M. program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, successful applicants from the United States ordinarily must have first obtained a J.D. degree from a law school that is accredited by the American Bar Association and a member of the Association of American Law Schools (AALS). U.S. Students with outstanding academic records from non-ABA, non-AALS law schools may also apply. The program also welcomes students without an American J.D. degree. Such an applicant must have received the equivalent of an American J.D. degree from a foreign university, must present evidence of a distinguished academic record, and must demonstrate English-language proficiency by achieving a score of 600 on the Test of English as a Foreign Language (TOEFL), a score of 250 on the computer-based TOEFL, or a score of 100 on the Internet-based TOEFL. Alternatively, the LL.M. program accepts comparable scores on the IELTS exams.

## Application for Admission

Applications should be submitted online through the following website: <http://gradadmissions.wayne.edu/apply.php>

Specific questions about the program may be directed to the Director of Graduate Studies by email to [LLMprogram@wayne.edu](mailto:LLMprogram@wayne.edu), by telephone, (313) 577-0088, or by mail:

Wayne State University Law School  
Director of Graduate Studies  
471 W. Palmer St.  
Detroit, MI 48202

Transcripts of the applicant's undergraduate and law school academic records are required. Applications for the fall semester must be received by the University not later than the preceding July 1, and for the winter semester not later than the preceding November 1. Applicants from abroad are encouraged to apply substantially earlier to allow sufficient time to obtain the necessary visa and other documents.

## Degree Requirements (LL.M)

The basic requirements for completing the LL.M. degree are as follows:

1. Successful completion of twenty-four credits of course work with a grade of 'C' or better in each course. An LL.M. student may not accrue degree credit for a course previously taken as part of a J.D. degree program. For exceptions, consult the LL.M. program regulations, [http://law.wayne.edu/llm/llmreqs\\_april\\_2011.pdf](http://law.wayne.edu/llm/llmreqs_april_2011.pdf), or contact the Director.
2. Completion of a two-credit Master's Essay constituting a piece of original research in the student's area of concentration.
3. Successful completion of at least sixteen credits of Law School (LEX) course work.

4. Completion of the basic course in the student's area of concentration: Taxation for Taxation majors (LEX 7816); Corporations for Corporate and Finance Law majors (LEX 7156); and Labor Law for Labor and Employment Law majors (LEX 7501). Students who have not completed the basic course within five years of enrollment must enroll in the course, unless the Director waives the requirement for other reasons. Students registering for the basic course in their major may accrue only two credits toward completion of the twenty-four credits of course work required for the LL.M. degree.

5. A cumulative honor point average of 2.33 (C+) on all credits taken. In computing this average, there is no rounding up.

6. All requirements for the degree must be completed within six years of the date the student first entered the program.

Note: University Graduate Level Courses: A student may elect up to eight credits of law-related courses on the graduate level in other departments of the University if they are listed as approved courses or with prior approval from the Director of Graduate Studies. Generally, courses numbered 5000 and above are considered graduate level; in some departments, certain 5000- and 6000-level courses are offered for undergraduate credit only and are so designated. Courses numbered 7000 and above are open only to graduate students. Courses in other departments of the University intended for transfer credit to the LL.M. must be taken for a letter grade (i.e., a pass/fail options may not be elected) and no credit will be applicable to the LL.M. with a grade below 'B.' Both the letter grade and the credits transfer fully from other graduate programs of the University.

Occasionally, advanced courses offered at other universities may be applied toward the twenty-four-credit requirement, provided that a substantially similar course is not offered at the Law School. Such courses may be taken on a transfer-credit basis with the advance permission of the Director of Graduate Studies, and tuition must be paid to the other university. Courses taken at other universities must be taken for a letter grade (i.e., a pass/fail option may not be elected) and no credit will be given for a grade below 'B.' Note that Wayne State University will transfer only the credits; the grade earned at the other university will not be factored into the student's grade point average, and transfer grades will not appear on the student's Law School transcript.

# Tuition, Financial Aid and Scholarships

## Tuition and Fees

Tuition and fees cited are in effect as of the publication of this bulletin and are subject to change at any time without notice by action of the Board of Governors. Consult the official Law School Schedule of Classes, published in advance of each term, for tuition and fees in effect at the time of registration. In accordance with action of the Board of Governors, a portion of these fees is used for operation of the Student Center.

### TUITION FOR J.D. AND LL.M. PROGRAMS:

For 2011-12, tuition and fees are as follows:

Resident Credit Hour Rate . . . . .	\$819.05
Non-resident Credit Hour Rate . . . . .	\$900.05
Omnibus Credit Hour Fee . . . . .	\$38.25
Fitness Center Fee . . . . .	\$25.00
Registration Fee . . . . .	\$174.65

NOTE: J.D. And LL.M. students who elect graduate-level courses in other University schools and colleges pay regular graduate resident or nonresident fees, see page 21.

For additional information regarding fees, payment of tuition, and residency see 'Tuition and Fees' in the General Information section of this Bulletin, beginning on page 21.

## Financial Aid

The Law School Office of Student Financial Aid administers a comprehensive program of need- and non-need-based aid.

## Applying for Aid

Wayne Law students are encouraged to complete the annual Free Application for Federal Student Aid ("FAFSA"). The FAFSA is a requirement for a scholarship award, and is also required to determine eligibility for federal student loans and federal work-study. The FAFSA for the coming academic year will be available online January 1. Students are encouraged to file early - there is no need to wait until admission acceptance. Parent information is not required on the FAFSA for Wayne Law students.

Complete the FAFSA at <http://www.fafsa.ed.gov> using the Wayne Law Federal Code - E00435. Completed application information will be sent electronically to the Wayne Law Financial Aid Office.

## Scholarships

Wayne Law offers a variety of scholarship opportunities for students.

Scholarships for new students are based on incoming credentials and do not require submission of a separate application. The Law School Admissions Office will notify scholarship recipients of awards in writing. The Wayne Law Dean of Students Office hosts an annual scholarship fair in the fall semester to present opportunities for current students.

## Federal Student Loans

Federal loans offer fixed interest rates, loan deferments and cancellation benefits.

Please note that borrowing can be costly. The Law School recommends that students consider borrowing only if they have exhausted

all other options and only borrow amounts needed. Students should make a budget for themselves to keep their debts within manageable limits after graduation.

## Federal Perkins Loan

The Federal Perkins Loan is awarded on a limited basis to students with exceptional financial need. This is a subsidized loan, with the interest paid by the federal government during in-school and nine-month grace periods. The interest rate is fixed at five percent.

## Federal Direct Stafford Loan

Law students may borrow up to \$20,500 annually in the Federal Direct Stafford loan program. Stafford Loans have a fixed 6.8% rate. Unsubsidized loans accrue interest while you are in school, although payment may be delayed until after graduation.

## Federal Direct Graduate PLUS Loan

The Federal Direct Graduate PLUS loan is an option for students who require additional funding beyond the Federal Stafford loan. The interest rate is fixed at 7.9%. Interest begins accruing at disbursement, but payment may be delayed while the student is in school. Credit verification is required. Loan amounts are limited to the estimated cost of attendance minus all other aid. Cost-of-attendance varies depending on student enrollment and housing.

## Federal College Work-Study

The college work-study program is a federally funded employment program designed for students who have demonstrated financial need. Work-study is awarded on a limited basis to needy students after the first year of law school. A FAFSA is required.

## Alternative Loans

Alternative loans are credit-based, private student loans. With an alternative student loan, students may borrow up to the estimated cost of their education, less other aid. Alternative loans generally have higher interest rates and fewer repayment options than federal loans.

**Non-citizens** have lawful permanent resident status to receive federal financial aid through the Office of Student Financial Aid. Information about financial aid sources outside of WSU for Canadian and other international students is available on our website.

## Other Resources and Opportunities

Students are encouraged to visit <http://law.financialaid.wayne.edu> for information on external scholarship opportunities, writing competitions and additional resources. Also available online are financial aid forms and details about the various types of financial aid.

## Eligibility and Policies — Financial Aid

**Application:** To apply for all aid students must complete the Free Application for Federal Student Aid (FAFSA) at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).

**Award Offers:** The Office of Student Financial Aid will notify students of any outstanding requirements and award offers by sending email to their Wayne email address. Students should activate their WSU email as soon as they receive an Access ID from the Admissions Office in order to receive important financial aid information. Emails will direct each student to WSU Pipeline to review their status and accept awards. If a student accepts a loan award, online loan counseling promissory notes must then be completed.

**Part-Time Enrollment:** Students must be enrolled at least half time to qualify for many aid programs. During the Fall/Winter semesters

five credits is half time for a J.D. student and four credits is half time for an LL.M. student.

**Disbursement:** Financial aid for the academic year is applied in two payments, half in the fall semester and half in the winter semester. If all requirements are met, fall aid will disburse to the student's account balance in mid-August. Credit balances if any, are released within fourteen days of payment. Students should sign-up for direct deposit on Pipeline for a quicker refund.

**Withdrawals and Return of Funds:** If a student withdraws from all classes during a semester, he/she may be required to repay a portion of his/her financial aid. Students who withdraw from all classes prior to completing sixty percent of the semester may only keep the federal aid they have "earned" up to the time of withdrawal. Title IV funds that were disbursed in excess of the earned amount must be refunded.

## Scholarships, Awards and Prizes

The following scholarships, awards and prizes are determined on the basis of academic achievement, course performance, written work and service to the Law School. In some cases, financial need is considered. Recipients of most of these awards are honored at the Law School Honors Convocation held each fall. Eligible students are automatically considered for these awards and applications are not required unless noted in the description of the award.

**David Adamany Constitutional Law Scholars Award:** These awards, funded by an endowment established with gifts from University President Emeritus David Adamany, are made to the law students who are the outstanding scholars in Constitutional Law.

**Ruth and Mitchell Bacow Endowed Scholarship:** This scholarship recognizes scholastic achievement, high ethical standards for legal professionals, and to reward law school students who demonstrate such standards.

**Ida and Benjamin Alpert Foundation Scholarship:** This scholarship, established by Mr. and Mrs. Myron Alpert and the Ida and Benjamin Alpert Foundation, is awarded to students who demonstrate outstanding scholarly achievement.

**Donald E. Barris Trial Competition Awards:** These awards, established by the law firm of Barris, Sott, Denn & Driker, P.L.L.C., are given to the best teams in the Student Trial Advocacy Program fall and winter competitions.

**Robert Blasier Annual Scholarship:** This scholarship was established by Dr. Ralph Blasier, Class of 2007. It is intended to assist individuals who have served their country or community, particularly veterans of the armed services or public safety (police and fire services) as well as doctors, nurses, biochemists and engineers.

**Bockoff & Mall Scholarship:** This scholarship, established by the firm of Bockoff & Mall through Richard A. Bockoff, Class of 1966, and Sanford Mall, Class of 1996, is awarded to the student who is an outstanding scholar in Trusts, Estate Planning, or Estate and Gift Taxation.

**Bodman Scholarship:** This scholarship, established by the firm of Bodman firm, is awarded to an outstanding student entering the second year.

**Robert C. Brown Annual Award:** This award will assist with the costs associated with bar preparation and review courses, as well as Michigan or multi-state bar exam fees.

**Wayne Budd Endowed Scholarship:** This scholarship is for a student who is a resident of the City of Detroit or a graduate of a Detroit high school and an active member of the Black Law Students Association.

**Bush, Seyferth & Paige PLLC Annual Scholarship:** This scholarship was created by the law firm of Bush, Seyferth & Paige PLLC in honor of Cheryl A. Bush, a majority owner and managing partner in

the firm and 1981 alumna. This award is given to a student who intends to pursue a career in litigation.

**John Cabaniss Endowed Scholarship:** This scholarship, established by John Cabaniss class of 1981 is awarded to students who have left other careers to pursue a law degree.

**Kenneth V. Cockrel Scholarship:** This scholarship, in memory of Kenneth V. Cockrel, Class of 1967, is awarded to a student who has a commitment to racial and economic equality and the active promotion of equal justice; a commitment to excellence; proven academic ability; and outstanding character and integrity. A notice inviting applications is posted early in the fall semester.

**Jerry S. Cohen Memorial Scholarship:** This scholarship was established in memory of Jerry S. Cohen, Class of 1952, to encourage law students to pursue a career in public interest law. It is awarded to retire the outstanding law school loan debt of J.D. students who take employment in the field of public interest or public service law after graduation.

**F. Philip Colista Memorial Endowed Scholarship:** This scholarship is awarded to a second year law student who has demonstrated a commitment to using his or her legal skills on behalf of the underprivileged in the community.

**William Davidson Endowed Scholarship for Student Athletes:** This scholarship was established by William Davidson, class of 1949, and is available to students who participated in NCAA intercollegiate or professionally-sanctioned sports and have a demonstrated financial need.

**Eugene Driker Endowed Scholarship:** This scholarship was established by Ruth Driker Kroll in honor of her brother, Eugene Driker, Class of 1961, and his 70th birthday. This scholarship is awarded to law students who are residents of the City of Detroit and/or who have completed their undergraduate degrees at Wayne State University.

**Frances and Charles Driker Scholarships:** In recognition of the many contributions of Eugene Driker, Class of 1961, to the Law School, this fund was established in honor of Mr. Driker's parents by Michael Timmis, Class of 1965. The scholarships are given each year to one day and one evening Wayne State Law School student with the highest academic average at the end of the first year of studies.

**Erman, Teicher, Miller, Zucker & Freedman, PC Annual Scholarship:** This scholarship recognizes scholastic achievement to encourage continued progress and to provide assistance to students in financing their law school education.

**Faculty Awards:** Established by the faculty of the Law School, an award is made to the top student in each section of the civil procedure, contracts, constitutional law I, criminal law, and torts courses.

**Cynthia Faulhaber Scholarship:** This scholarship, established by Cynthia Faulhaber, Class of 1982, is awarded to the editor-in-chief of the *Journal of Law in Society*.

**Robert and Marie Fayz Endowed Scholarship:** This scholarship recognizes the achievements of and provides financial assistance to law students who speak Arabic or have taken a leadership role in the Middle Eastern Law Students Association or the Muslim Law Students Association.

**Alexander Freeman Fellowship:** Established by the late Mr. and Mrs. Alexander Freeman in recognition of the contributions to international law by Dr. Alwyn Freeman, this funds in part a student's summer study at the Hague Academy of International Law in The Netherlands. A notice inviting applications is posted early in the winter term.

**Charles H. Gershenson Trust Scholarship:** This scholarship is funded by the Charles H. Gershenson Trust in memory of Charles H. Gershenson, and is awarded to students with high credentials and outstanding character.

**Leonard R. Gilman Scholarship:** This scholarship, established in memory of Leonard R. Gilman, Class of 1967, who was the United States Attorney for the Eastern District of Michigan, is awarded on the basis of scholarship, qualities of character and leadership, and an interest in criminal law. A notice inviting applications is posted early in the fall semester.

**Ernest and Freda Goodman Scholarship:** This scholarship is awarded to a student with financial need who demonstrates a substantial interest in, and significant contribution to, the goals of civil rights and social justice. A notice inviting applications is posted early in the fall semester.

**Bernard Gottfried Memorial Scholarship:** This scholarship is funded by gifts to the Law School and proceeds from the Bernard Gottfried Memorial Labor Law Symposium sponsored by the Law School and the National Labor Relations Board, Region Seven, with the participation of the State Board of Michigan Labor and Employment Law Section. It is awarded to a student who has demonstrated a serious interest in and expects to pursue a career in the field of labor and employment law.

**Joseph Grano Endowed Scholarship:** This scholarship, established in memory of the late Professor Joseph Grano is awarded on the basis of merit to an outstanding student in constitutional law or criminal procedure.

**Charles V. Hammond Memorial Scholarships:** These scholarships, in memory of Charles V. Hammond, Class of 1982, are awarded to Wayne State Law School students for outstanding academic achievement in the first and second years of law studies.

**Jason L. Honigman Scholarship:** This scholarship, established by the late Jason L. Honigman, is awarded to the editor in chief of The Wayne Law Review.

**Iannotti Annual Scholarship:** This scholarship established by Daniel Iannotti, class of 1979, is awarded to a student who has demonstrated qualities of scholarship and character and is a member of the Italian American Law Student Association.

**Izumi Endowed Scholarship:** This scholarship, established by the ninth dean of Wayne Law Frank H. Wu and his wife Carol ("Debbie") Izumi to honor the memory of her parents Shinsuke Edwin and Misao Izumi. It recognizes continued progress and provides assistance to students in financing their education at the Law School.

**Raymond L. Krell Scholarships:** These scholarships, established by the late Raymond L. Krell, Class of 1958, are awarded to students who have need, an interest in trial work and a commitment to pro bono or charitable activities.

**Arthur F. Lederle Scholarships:** These scholarships, established by family and friends of the late United States District Court Judge Arthur F. Lederle, are awarded to first-year students with financial need and potential for superior work.

**Norman I. Leemon Award:** An annual award in honor of Norman I. Leemon, Class of 1942, is given to the law student who is an outstanding scholar in Real Estate Finance Law or another property-related course.

**Legal Research and Writing Best Appellate Briefs Awards:** Awards are made to students for the best appellate brief for each first-year Legal Research and Writing lecturer. An award is also made for the best brief in the Advanced Legal Writing course.

**Judges Leona and Leonia Lloyd Twins for Justice Endowed Scholarship:** This scholarship was created by Hon. Leonia Lloyd, Class of 1979, in memory of her twin sister Hon. Leona Lloyd, Class of 1979. It is awarded to an incoming student from Detroit who demonstrates academic excellence, financial need, and a commitment to the City of Detroit.

**Stephen R. Levine Memorial Endowed Scholarship:** This scholarship, established in memory of Stephen R. Levine, Class of 1976,

recognizes scholastic achievement, encourages continued progress and provides assistance to an evening student in the J.D. program.

**Frederica K. Lombard Scholarship:** This scholarship is funded by the Charles H. Gershenson Trust in honor of Frederica K. Lombard, former Law School associate dean and professor of law. It is designed to attract students of the highest caliber with strong academic credentials.

**Anthony Maiullo Memorial Scholarships:** These scholarships, established by the late Betty M. Maiullo in memory of her father, Anthony Maiullo, a noted trial practitioner in the Detroit area, are awarded to outstanding students entering the first year of law studies.

**Wade H. McCree Jr. Scholarship:** This scholarship, in memory of Judge Wade H. McCree Jr., is awarded to a student or students of integrity and high promise.

**Menendez-Diaz Endowed Scholarship:** This scholarship, in memory of George Menendez, Class of 1949, and in honor of Fernando G. Diaz, M.D., Class of 1995, is awarded to students who are members of a Hispanic organization, who show involvement with the Hispanic community, or are Spanish speaking.

**Dimitrios Mihos Memorial Annual Scholarship:** This scholarship, established by Haralambos Mihos, is given to students who are first generation immigrants to assist them with the financing of their legal education.

**Bruce A. Miller Family Scholarship in Labor Law:** Bruce A. Miller, Class of 1954, established the Miller Family Scholarship in honor of his family. It is awarded to a student based on performance in labor law courses.

**Walter Nussbaum Award:** Established by friends of the late Walter Nussbaum, this award is made annually to a student who excels in the course, Professional Responsibility and the Legal Profession.

**George Peck Endowed Scholarship for Superior Advocacy:** Established by George Peck, Class of 1980, in memory of his late father, Dr. Theodore E. Peck, this award is made to the student who best exemplifies dedication to passionate and creative advocacy, intelligent and persuasive oral and written argument and excellence in public speaking.

**Michael L. and Peggy Goldberg Pitt Award:** This fund was created by Michael L. Pitt, Class of 1974, and Peggy Goldberg Pitt, to provide financial assistance and special services to students with physical disabilities.

**Rader, Fishman & Grauer PLLC Endowed Scholarship:** Rader, Fishman & Grauer PLLC members endowed this scholarship to recognize students with high academic performance and an interest in intellectual property, especially patent law.

**Edward H. Rakow Memorial Award:** An annual award, established by the Federal Bar Foundation of Detroit in honor of Mr. Rakow, who was a leader in the association, is made on the basis of scholarly achievement in corporate law.

**John W. Reed Endowed Scholarship:** This scholarship is awarded to an upper-class student chosen by the Dean on the basis of academic excellence and evidence of professionalism. The scholarship has been funded primarily by the Fellows of the International Society of Barristers, for which former Dean Reed has served as administrator and editor since 1979.

**James K. Robinson Scholarship:** This scholarship was funded by the Charles H. Gershenson Trust, in honor of James K. Robinson, former Law School dean and professor of law. It is designed to attract students of the highest caliber with strong academic credentials.

**Renfrew Prize in Legal History:** Established by James Renfrew, Class of 1950, this award is made to the student who writes the best original essay of publishable quality dealing with American, English or continental legal history.

**Lewis Rockwell Endowed Scholarship:** This scholarship was established by Lewis A. Rockwell, Class of 1947, to recognize scholastic achievement and provide assistance to students in financing their legal education.

**Rogers Mantese & Associates, P.C. Annual Scholarship in Health Law:** David Rogers, Class of 1982, former member of the Law School's Board of Visitors and past president of the Law Alumni Association, has devoted much personal time and effort to mentoring law students and counseling their career development. He created this scholarship in 1997 as a means of acknowledging his own commitment to the Law School and the development of health law. This scholarship is awarded to an outstanding student in a health law course.

**Richard H. Rogers Memorial Endowed Scholarship:** This scholarship was established by David L. Rogers, Class of 1982, and Susan H. Rogers, M.S.W. 1977, in memory of Mr. Rogers' father, Richard H. Rogers. It is awarded on the basis of scholarly achievement and significant financial need.

**Professor Alan Schenk Annual Student Prize:** John and Lynn Collins, Class of 1976 and 1978, created this student prize in honor of Professor Alan Schenk's 40th year as a professor at Wayne State University law School. This scholarship is awarded to the student with the highest grade in the Business Planning course.

**Scholarship Key Certificates:** Gold, silver and bronze key certificates are awarded to students who have demonstrated outstanding academic achievement for the past academic year.

**Boaz Siegel Award:** Established by Professor Emeritus Boaz Siegel upon his retirement from the Law School in 1972, these annual awards are made for the best papers or outstanding performance in the fields of pension, health and welfare, employment or labor law.

**Max Smitt Scholarship:** Established by Helene Warren in memory of her brother, Max Smitt, a distinguished member of the State Bar, the scholarship is awarded based on academic performance and need.

**Ira Spoon Award and Scholarships:** Established by the late Ira J. Spoon, Class of 1945, the award is made annually to the student who has written the best paper on the subject of urban development or property law. The scholarships are awarded to Wayne State Law School students on the basis of scholarly achievement in the first-year Property course.

**A. Albert Sugar Memorial Annual Scholarship:** This scholarship was established in memory of A. Albert Sugaris awarded to a student who has taken a leadership role in the Jewish Law Students Association and demonstrated integrity, strong academic achievement and a commitment to the betterment of the community.

**William D. Traitel Scholarships:** These scholarships, designated for students who have demonstrated superior academic achievement, are awarded to members of The Wayne Law Review board.

**Wachler & Associates, PC Annual Award:** This award was established by Andrew Wachler, Class of 1978, of Wachler & Associates, PC, to support a student research fund in health law.

**Ferne Walter Scholarships:** Memorial scholarships in honor of Ferne Walter, Class of 1941, are awarded on the basis of outstanding academic achievement and need.

**Alan R. Waterstone Scholarships:** These scholarships are in memory of Alan R. Waterstone, a well-known labor law attorney who was an adjunct professor in the Law School graduate program for more than thirty years. They are awarded based on demonstrated commitment to the City of Detroit, as well as on financial need and academic performance.

**Mark Weiss Memorial Endowed Scholarship:** This scholarship was established in memory of Mark Weiss, Class of 1969, who devoted his skills to fighting for the rights of the poor and powerless. This scholarship is awarded to students who demonstrate high scho-

lastic achievement and intend to pursue a career in public interest law. It may also be given to a graduate employed in the field of public interest to assist with loan repayment.

**Judge Thomas C. Yeotis Scholarship:** This award was established by Michael Gary Rachor to honor the distinguished career of Hon. Thomas C. Yeotis, Class of 1956, retired judge of the Genesee County Circuit Court. It is awarded to a student with a connection to Genesee County, Michigan, on the basis of academic performance.

**Carl Ziemba Annual Scholarship:** This scholarship in honor of the late Carl Ziemba, Class of 1948, is awarded to students who have done their undergraduate studies at Wayne State University, have financial need and intend to pursue a career in public interest law.



# Student Services

## Career Services

The Law School is committed to assisting students and alumni in planning and developing their careers. Throughout the year, the Career Services Office provides a broad range of seminars, workshops, panel discussions and networking receptions. These events are designed to acquaint students and alumni with a variety of legal practice areas and provide valuable networking contacts.

The Career Services Office posts legal job opportunities in an online database that is updated daily, and maintains a reference library that includes resources related to judicial clerkships, internships, fellowships and more. The office also subscribes to print and electronic resources that publicize job opportunities and provide helpful career search techniques.

Students and alumni are encouraged to meet individually with a career advisor to discuss professional objectives, job opportunities, interview strategies and any other career-related matter. All career advisors are former practicing attorneys with counseling experience. Their goal is to help students and alumni maximize their career potential.

Twice annually, the Law School coordinates on-campus recruitment programs that draw more than seventy participating employers. A variety of law firms, accounting firms, government offices and public interest organizations interview students for summer law clerk and post-graduation job opportunities.

The Law School's proximity to law firms, courts and government agencies affords students excellent opportunities to gain practical legal experience. Wayne Law alumni include several present and former Michigan Supreme Court justices, roughly a quarter of all current Michigan judges, several past presidents of the State Bar of Michigan, as well as a number of law school deans and members of Congress.

The Career Services Office conducts an annual employment survey of the graduating class. Of the 142 graduates of the 2010 class who responded to the survey, 85.9% reported they were employed within nine months of graduation, 2.8% were continuing their education in a full-time degree program, 6.3% were not seeking employment, and 4.9% were unemployed and seeking employment. The mean salary for 2010 graduates reporting was \$60,000:

- Private Firms: 63.1%
- Government including Judicial Clerkships: 13%
- Business: 17.2%
- Public Interest: 4.9%
- Academic: 0.8%

## Academic Counseling

Academic counseling is available at the Law School Dean of Students Office. Assistance to students in choosing a program of study as well as counseling concerning course load and other academic-related matters is provided with the goals of maximizing each student's potential for academic success and best preparing each student for entry into the legal profession.

## Dean of Students Office

The Law School's Dean of Students Office offers both academic assistance and counseling services. Students are encouraged to drop by to discuss any aspect of their law studies, including course selection and schedule, study and interviewing skills. Knowing that there is someone at the Law School who will take the time to discuss any problem or concern can be very reassuring.

The Law School's Dean of Students Office also assists students with disabilities. Students requesting services should contact the office after admission to design a course of study. The office will assist the student in receiving services, reasonable accommodations and academic adjustments.

Throughout the year the office sponsors seminars on topics of interest to first-year law students such as preparing for class, case briefing, stress and time management, outlining and examination writing. The office maintains a resource lending library with textbooks, hornbooks and substantive-law review tapes, as well as materials on first-year survival skills, law study techniques and examination writing skills.

The Law School is committed to the academic success of all students. The Dean of Students Office provides students with assistance which will enable them to achieve that success.



# Alumni Activities and Continuing Legal Education

## The Board of Visitors and the Law Alumni Association

The Board of Visitors consists of many of the Law School's most prominent graduates. The Board advises the Dean on important strategic matters. The Law Alumni Association is an independent organization of the graduates of Wayne State University Law School. Governed by graduates who serve as the executive committee and officers, the organization provides service to the Law School and its graduates through social events and support projects.

## The Law School Fund

Although Wayne State University is a state-assisted school, the private contributions of alumni, law firms, corporations and other friends of the Law School provide the financial margin necessary to ensure outstanding teaching and faculty scholarship, excellent professional training, a modern and expanding library and student scholarships. The fund, growing steadily over the past several years, provides well over 10 percent of the Law School's annual resources. The alumni are asked each year to make a substantial donation to the Law School.

## *The Wayne Lawyer*

All alumni and students receive *The Wayne Lawyer*, the official magazine of the Law School. Published twice each year, it provides current information about Law School activities, alumni accomplishments and profiles, a topical message from the Dean and articles of current interest written by members of the faculty.

## Continuing Legal Education

The Institute of Continuing Legal Education is a nonprofit educational organization for the continuing education of the bench and bar. It was founded in 1959 under the sponsorship of Wayne State University Law School, the University of Michigan Law School and the State Bar of Michigan. The Institute, one of the most successful in the nation, serves the needs of Michigan lawyers primarily. It presents seminars and conferences dealing with numerous areas of substantive law as well as practice skills. The Institute has an extensive publishing program which includes authoritative texts on various specialty areas of the law and course handbooks.

# Faculty

## *Professors*

Robert M. Ackerman, Martin J. Adelman (Emeritus), Laura Bartell, Erica Beecher-Monas, Kingsley R. Browne, William H. Burnham, Stephen Calkins, John F. Dolan, Gregory H. Fox, Peter B. Hammer, Peter J. Henning, Otto J. Hetzel (Emeritus), Maurice B. Kelman (Emeritus), LeRoy L. Lamborn (Emeritus), Edward J. Littlejohn (Emeritus), Joan Mahoney (Emeritus), Michael J. McIntyre, John E. Mogk, John W. Reed (Emeritus), Brad R. Roth, Alan S. Schenk, Robert A. Sedler, Ralph Slovenko, Jonathan Weinberg, Katherine White, Steven L. Winter

## *Associate Professors*

Linda M. Beale, Jocelyn M. Benson, Anthony M. Dillof, Paul R. Dubinsky, Janet E. Findlater, Noah D. Hall, Adele M. Morrison, Julia Ya Qin, John A. Rothchild, Vincent A. Wellman

## *Assistant Professors*

Sarah Abramowitz, Susan E. Cancelosi, Kirsten Carlson, Lance Gable, Brandon Hofmeister, Justin Long, Christopher C. Lund, David R. Moss (Clinical), Aaron Perzanowski, Rachel Settlage (Clinical), Eric Williams (Clinical), Eric A. Zacks

## *Legal Writing Faculty*

Anne Marie Burr (Director), Kathryn M. Day, Aimée Mangan Godfrey, Clara S. McCarthy, Amy Neville, Kristin Theut



# Law School Directory

*Web:* Please visit our website at: <http://www.law.wayne.edu>

General Information: 313-577-3933

Telephone Area Code: 313

## *Administration*

Dean, 3315 Law Library: 577-3933  
Robert M. Ackerman

Associate Dean, 3315 Law Library: 577-3973  
John A. Rothchild

## *Service Offices*

Admissions - J. D. Program: 577-3937  
Ericka M. Jackson, Assistant Dean

Admissions - LL.M. Program: 577-3929  
Professor Linda M. Beale, Director

Advancement: 577-4141  
Mary Hollens, Director

Alumni Relations: 577-4141

Career Services: 577-3967  
Krystal Gardner, Assistant Dean

Clinical Education, 378 Law Library: 577-3348  
David Moss, Director

Dean of Students: 577-3997  
Michele R. Miller, Assistant Dean

Financial Aid: 577-5142  
Karen Fulford, Assistant Director

Law Library, 117 Law Library: 577-3925  
Virginia Thomas, Director

Records and Registration: 577-3978  
Elizabeth Van Goethem, College Recorder

Student Life and Educational Outreach: 577-3951  
Ricardo Villarosa, Director

Further information about the Law School, including e-mail addresses for faculty and staff, may be accessed on the Law School website: <http://www.law.wayne.edu/>

Letters should be addressed to the appropriate department at Wayne State University Law School, 471 W. Palmer St., Detroit, Michigan 48202.



# Law Courses (LEX)

## Required Courses

### **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. (Y)

### **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. (Y)

### **6200 Contracts A. 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. (Y)

### **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. (Y)

### **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. (Y)

### **6400 Legal Research and Writing. Cr. 2 (4 req.)**

Analysis of legal problems and the use of legal materials, through discussion, written assignments, and personal conferences. Preparation of an appellate 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. (Y)

### **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. (Y)

### **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. (Y)

### **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. (Y)

### **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. (Y)

### **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. (Y)

## Elective Courses

### **7001 Accounting for Lawyers. Cr. 2**

May not be taken for credit by those who took two or more undergraduate accounting courses or a graduate course in financial accounting. 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. (Y)

### **7006 Administrative Law. Cr. 3-4**

Functions and behavior of administrative agencies; constitutional and statutory constraints on agency operation. How the government formulates and enforces policy, administers public benefit programs, and awards licenses. (Y)

### **7009 Advanced Bankruptcy. Cr. 3**

Prereq: LEX 6500, 7756, 7051. Chapter 11 business reorganization. Review of mock bankruptcy schedules, and cash collateral, relief from stay, and Chapter 11 plan and disclosure statement pleadings, to develop necessary substantive knowledge and negotiation and trial advocacy skills. Problem-oriented approach: students and instructors resolve situations commonly encountered in a business bankruptcy. Grade based on examination and class participation. (Y)

### **7014 Advanced Corporate Tax Problems. Cr. 4**

Prereq: LEX 7821. Tax rules for corporate acquisitions and restructurings (including spins and carryover of attributes), S corporations and/or consolidated returns, explored through the lens of simulated client interactions. Students work in teams to prepare written and oral presentation on two or more of the topics covered (such as negotiation of an acquisition, preparation of a private letter ruling request, preparation of an internal memorandum outlining the pros and cons of various structuring choices, preparation of a tax opinion letter, and consideration of entity choices for the client's future transactions), and meet with instructor at mutually convenient times in connection with team projects. (Y)

### **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. (B)

### **7020 (HIS 5280) American Legal History. (HIS 7280) Cr. 4**

Non-technical survey of relationships between private law and a developing American society from earliest settlement to the present. Emphasis on evolving conceptions of civil authority and private right, the legal profession, legal education, the law of slavery, and doctrinal developments touching property, labor, women, children, and others. (Y)

**7021 American Indian Law. Cr. 3**

Unique status of native Americans and tribes in the American legal system. Relationship between tribes and federal and state governments as outlined by the U.S. Constitution; federal treaties and statutes, and federal common law, as well as the unique rights and obligations of individual native Americans under federal law. (I)

**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. This course will consider these traditional areas of law, ground-breaking laws enacted by other countries, as well as theories for the expansion of consideration and rights. (I)

**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. (Y)

**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. (Y)

**7051 Bankruptcy and Creditors' Rights. Cr. 3**

Prereq: LEX 6500; prereq. or coreq: LEX 7756. 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. (Y)

**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. (I)

**7060 Business Planning. Cr. 4**

Prereq: LEX 7156, 7816, 7146; LEX 7151 or 7203 or 7821; LEX 7761. Not open to students who are taking or have taken LEX 7603. 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. (Y)

**7061 Business Planning: A Transactional Approach. Cr. 4-8 (8 req.)**

Prereq: LEX 7156 and 7816. Not open to students who have taken JDC 7280, LEX 7821, 7761, 7146, or 7151. Credit only on completion of two terms. 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. (Y)

**7070 Child Abuse and Neglect. Cr. 2**

Introduction to state and federal laws governing the child protection and child welfare systems. Topics include: defining abuse and neglect; mandatory reporting; child protection investigations and limitations thereon; emergency removal and less burdensome alternatives; adjudicatory hearings and proof of use and neglect; dispositional hearings and powers; permanency planning and long-term placements; termination of parental rights; right to counsel; duties of lawyers for children in abuse and neglect cases. (Y)

**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. (I)

**7106 Commercial Law: Directed Research. Cr. 1 (Max. 4)**

Prereq: consent of instructor; completion of first year requirements; good academic standing. Offered on Pass - No Credit basis only. No credit unless elected for at least two consecutive terms. Commercial law subjects studied under supervision of full-time faculty member; may be elected for up to four semesters. First two semesters: student reports on articles, cases, and books; last two semesters: writing project involving original research. Grading on pass - no credit basis. (T)

**7111 Communication Law. Cr. 2-3**

Government regulation of radio, over-the-air TV, cable, direct satellite broadcasting, and other electronic mass media technologies. Licensing; content control, respective roles of the regulator and the marketplace. (B)

**7116 Comparative Law. Cr. 2-3**

Methods and sources of common and civil law; background and structure of the principal civil codes; analysis and study of problems arising in the context of foreign legal systems. (Y)

**7118 Complex Litigation. Cr. 2**

Prereq: LEX 6100 and 6101. This course builds upon the framework and core concepts in Civil Procedure A and B and will delve more deeply into issues in complex litigation, including: a thorough examination of class action rationale and practice; other types of multi-district litigation, and mass tort cases; theory and practice of class actions and complex litigation. Students will be expected to participate in class, produce filing-quality pleadings, and take a written exam. (Y)

**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. (Y)

**7123 (HIS 5160) Constitutional History of the United States to 1860. (HIS 7160) Cr. 4**

Anglo-American constitutional development from European expansion and New World Settlement through the onset of the Civil War. Changing relationship between colonies and imperial center, emergence of revolutionary republic in North America, framing of new constitutional orders, nineteenth-century developments through 1860. (Y)

**7124 (HIS 5170) Constitutional History of the United States from 1860 to 1940. (HIS 7170) Cr. 4**

United States constitutional development from the beginning of Civil War through the Judicial Revolution of 1937. Emergence of new constitutional agenda between 1860 and the 1890s. Progressive constitutionalism, changes in relations between branches of government and in the federation, New Deal constitutionalism, and struggles for enfranchisement of blacks and women. (Y)

**7126 Constitutional Law II. Cr. 4**

Prereq: LEX 6700. Individual rights under the Constitution of the United States. Freedom of speech, religious freedom and equal protection. (Y)

**7127 Constitutional Litigation. Cr. 3**

Prereq: LEX 6700. Jurisdictional and constitutional basis and history of claims by individuals against government officials for constitutional violations. Limits and constraints on actions of officials and policies of governments. (Y)

**7128 Consumer Law. Cr. 2-3**

Rights and obligations of consumers. Regulation of the consumer marketplace: Federal Trade Commission Act, Truth in Lending Act, Fair Credit Reporting Act, Equal Credit Opportunity Act, Fair Debt Collection Practices Act, and lemon laws. Interpretation, enforcement, role of administrative agencies. (I)

**7131 Consumption-Based Taxation. Cr. 2**

Prereq: LEX 7816. Economic, administrative and legal aspects of consumption-based sales taxes with emphasis on value added tax as adopted abroad and proposed in the U.S. American Bar Association Model Statute for the U.S., rules for the harmonization of VAT in the European Community, the Japanese Consumption Tax, and the Canadian Goods and Services Tax. (I)

**7136 Copyright Law. Cr. 3**

Prereq: LEX 6500 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. (Y)

**7141 Corporate Finance. Cr. 3**

Prereq: LEX 7156 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. (Y)

**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. (Y)

**7159 Counterterrorism Law. Cr. 2-3**

Detention, arrest, prosecution, interrogation, and surveillance of terrorist suspects; course provides students with opportunity to voice their opinions on how they would handle the remaining detainees at Guantanamo Bay, as well as other issues. Other topics include third party records and data mining, screening for security, and managing terrorist attacks. Relevant law, case materials, secondary sources. (Y)

**7160 Criminal Pretrial Advocacy. Cr. 3**

Prereq: LEX 6300. 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. (Y)

**7161 Criminal Procedure: Investigation. Cr. 3**

Constitutional requirements for arrests, searches, seizures, electronic surveillance, and interrogations. (Y)

**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. (Y)

**7172 Developing the Commercial Real Estate Project. Cr. 3**

Prereq: LEX 6500. 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. (Y)

**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. (I)

**7204 Elder Law. Cr. 2-3**

Legal needs of growing elder population: housing, health care delivery, end-of-life decisions, elder abuse. Legal, social, political contexts. (Y)

**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). (Y)

**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. (Y)

**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. (Y)

**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. (Y)

**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.) (Y)

**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. (Y)

**7236 Equitable Remedies. Cr. 2-3**

Not open to students who have taken JDC 8640 or former JDC 7790 or former JDC 8660. 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. (I)

**7241 Estate, Gift and Inheritance Taxation. Cr. 2**

Prereq: LEX 7816. Not open to students who have completed LEX 7246. Federal and state transfer taxes and income taxation of fiduciaries and beneficiaries. (Y)

**7261 European Union Law. Cr. 2-3**

Institutional and substantive law of the European Union. Foundation of institutional law of the European communities and the European union, judicial protection under EC law. Basic legal aspects of the EU's single internal market and the EC economic policy. (Y)

**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. (Y)

**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. (Y)

**7306 Federal Courts and the Federal System. Cr. 2-3**

Prereq: LEX 6700. 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. (B)

**7311 Federal Income Taxation of Partnerships. Cr. 2-3**

Prereq: LEX 7816. Tax treatment of partnerships, including multiple-member LLCs. Topics include: transfer of property to partnerships, operation of a partnership, distributions of property, transactions between partners and partnerships, transfers of interests in partnerships, termination of partnerships; some coverage of taxation of Subchapter S corporations, partnership agreement provisions, related topics. (Y)

**7316 Federal Tax Practice. Cr. 2**

Prereq: LEX 7816. Procedure, both administrative and judicial, involved in the conduct of federal tax controversies. (B)

**7326 Foreign Direct Investment. Cr. 3**

Although students would benefit from some prior exposure to international law, international business transactions, international commercial arbitration, or international trade, any second or third-year law student can take the course without prerequisites or co-requisites. History of, and policy justifications for, protection of foreign direct investment (FDI); the substantive international law regarding the protection of FDI; the process for resolving disputes between foreign investors and host states through international arbitration; and critiques of the existing legal framework for protection of FDI. (I)

**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. (Y)

**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. (Y)

**7360 Health Policy: The Firm, the Market and the Law. Cr. 3**

Prereq: LEX 6200, LEX 6600. Exploration of problems of health law and policy from perspective of modern institutional economics, including Coase's theory of the firm and Ken Arrow's work on uncertainty and the welfare economics of health care. Trends towards prepayment, vertical integration and development of managed care networks. Legal questions include constructing a competition policy, defining physician rights and responsibilities within an integrated firm structure, significance of social norms, and patient protection in a world of managed care. For students interested in law and economics and contemporary policy analysis, as well as students interested in the health care industry. (Y)

**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. (B)

**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. (I)

**7384 International Commercial Arbitration. Cr. 3**

Although students would benefit from some prior exposure to alternative dispute resolution, international law, or international business transactions, any second or third-year law student can take the course without prerequisites or co-requisites. 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. (I)

**7401 International Aspects of U.S. Taxation. Cr. 2-3**

Prereq: LEX 7816. United States taxation of non-resident aliens and foreign entities, foreign tax credit, determination of source of income, impact of tax treaties, earned income exclusion, tax effect of mode of operation and country of incorporation, and statutory and non-statutory tax devices available for international operations. (B)

**7404 International Business Transactions. Cr. 3**

Practical legal problems connected with doing business abroad; counseling on foreign law. (Y)

**7406 International Finance: Transactions, Regulation, and Policy. Cr. 3**

Prereq: background in economics or finance, or a course in corporations, corporate finance, or securities regulation, recommended. 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. (Y)

**7407 International Intellectual Property. Cr. 3**

Prereq: LEX 7136, LEX 7656 or LEX 7831, or consent of instructor. Protection of intellectual property rights in a globalized commercial environment. Treaties and international institutions that address the acquisition and protection of trademark rights, patent rights, copyrights, and related rights in commercial context involving more than one national jurisdiction. (Y)

**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. (Y)

**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. (Y)

**7410 International Organizations and Public Health. (MDR 7410) Cr. 3**

Prereq: LEX 6200 and LEX 6600. 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. (Y)

**7411 International Protection of Human Rights. Cr. 2-3**

The main international and regional legal instruments and procedures for the protection of human rights. (I)

**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. (Y)

**7414 International Legal Research. Cr. 1 (2 req.; max. 4)**

Prereq: consent of instructor. 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. (Y)

**7416 International Tax Treaties. Cr. 2**

Prereq: LEX 7816. International income tax treaties based on the OECD Model Treaty. Topics include: taxation of business income, permanent establishment rules, taxation of employees and independent contractors on their personal services income; taxation of investment flows; arrangements for administrative cooperation and dispute settlement; special rules for some international transportation industries. (B)

**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. (Y)

**7419 Interviewing and Counseling. Cr. 2**

Prereq: completion of all first-year courses. Not open to students who have taken or are taking LEX 8604 or LEX 8641. Introduction to interviewing and counseling theory; development of skills for effective counseling of clients in both litigation and transactional matters. Topics assessed and skills developed include active listening, phrasing and sequencing questions, eliciting time lines, probing for details, clarifying objectives, identifying options and discussing their consequences, and helping clients make decisions. (Y)

**7420 Introduction to Intellectual Property. Cr. 3**

Survey of general principles of copyright, patent, and trademark law, as well as related state law doctrines. Questions of subject matter, scope of protection, infringement, defenses and remedies. Practical and theoretical commonalities and distinctions among these systems of intellectual property. General overview for the non-specialist and useful grounding for those interested in pursuing additional intellectual property courses. (Y)

**7424 Introduction to the Legal System of the United States. Cr. 3**

Not open to J.D. students. 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. (Y)

**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. (Y)

**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. (Y)

**7495 Labor Arbitration. Cr. 2**

Prereq: LEX 6200 and LEX 6100 or equiv.; or consent of Director of Graduate Studies. Arbitration is the primary form of adjudication outside the court system; this course emphasizes labor arbitration: disputes between employers and unions under collective bargaining agreements; but it also treats other forms of arbitration including employment, commercial and securities arbitration. (Y)

**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. (Y)

**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. (B)

**7511 Land Use. Cr. 2-3**

Prereq: LEX 6500. 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. (Y)

**7515 Law and Economics. Cr. 3**

Not open to students who have taken LEX 8246. Application of economic analysis to the selection of legal rules. After brief introduction to foundational economic concepts, the course revisits the first-year curriculum (torts, contracts, property, criminal law) and demonstrates the pervasive influence of economic thinking in these foundational areas. Application of economics to a variety of legal topics, such as discrimination, business organizations, federalism, and definitions of justice. Course assumes no background in economics and requires no mathematical training beyond high school algebra. (B)

**7516 Law of Elections and Political Organizations. Cr. 2-3**

Recommended prereq: previous study in constitutional law. Ways in which law governing the political process in the United States affects and reflects power relationships. How law and other forces shape the structure of American political participation; alternative directions for American democracy. Class discussions, short assignments, final examination. (B)

**7520 Legal Drafting. Cr. 3**

Prereq: LEX 6400. Development of transactional drafting skills; focus on writing techniques most often assigned to summer interns and first and second year associates. (Y)

**7536 Legal Writing: Advanced. Cr. 3**

Prereq: LEX 6400. May not be taken on pass/no credit basis. 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 a advocate. Students write both trial and appellate brief. (Y)

**7581 Local Government Law. Cr. 2**

Prereq: LEX 6500 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. (Y)

**7590 Maastricht Exchange Program. Cr. 1-4**

Students take courses offered in the Maastricht Exchange Program. (Y)

**7603 Mergers and Acquisitions. Cr. 2-3**

Not open to students who have taken LEX 7061. Prereq: LEX 7156 and 7816. 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). (Y)

**7605 Multistate Taxation in the Digital Age. Cr. 3**

Not open to students who have taken former LEX 7771. Prereq: LEX 7816. 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. (Y)

**7613 Natural Resources Law. Cr. 3**

Law that governs the acquisition and control of natural resources. History of federal public domain, including statehood grants, homestead acts, and the creation of the national forests, national parks, national monuments, wilderness areas, and the Bureau of Land Management system. Division of authority among federal, state and tribal governments; among Congress, agencies and courts in ongoing management of resources under statutes such as the National Environmental Policy act. Resources that present unique challenges for legal regulation, such as wildlife, minerals and timber. (Y)

**7616 Negotiation. Cr. 2**

Comprehensive examination of various legal principles that affect negotiation, such as rights assessment, custom and practice, rules of contract construction, concepts of condonation, proper and improper conditions, effective use of evidence in the negotiation process and legal strategies that affect outcome of negotiations. (Y)

**7631 No-Fault Insurance Law. Cr. 2**

Prereq: LEX 6200, LEX 6600. 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. (B)

**7641 Non-Profit Entities. Cr. 2**

Issues concerning organizations exempt from federal taxation pursuant to section 501(c)(3) of the Internal Revenue Code, including inter alia: charities, educational institutions, religious institutions, arts, sciences, and cultural organizations, and health-care institutions. Economic theory, sociological aspects and constitutional aspects of the charitable sector; surveying legal aspects of such organizations for legal counseling and pro bono involvement. (Y)

**7646 Patent Application Preparation. Cr. 2-3**

Prereq. or coreq: LEX 7656. The mechanical steps of preparing a patent application, as related to recent decisions of the Court of Appeals for the Federal Circuit (CAFC) regarding claims interpretation. Lessons learned from case law in preparing an application. Jeffersonian ideals for the patent system and the latest Supreme Court patentability decisions. (Y)

**7651 Patent Enforcement. Cr. 3**

Prereq: LEX 7656. 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). (Y)

**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. (Y)

**7659 (P S 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. (Y)

**7660 (D R 7310) Practicum in Dispute Resolution. Cr. 3**

Prereq: D R 7210 and D R 7220 required; D R 7100 recommended; consent of academic advisor. Training in facilitative mediation with opportunity to practice skills in a variety of settings. Material fee as stated in Schedule of Classes. (Y)

**7661 Commercial Systems. Cr. 2**

Prereq. or coreq: LEX 7756. Capstone course for contracts/commercial curriculum; creation, transfer and enforcement of obligations, mostly in payment, transport and storage settings. (Y)

**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. (Y)

**7669 Privacy Law. Cr. 2-3**

Law of information privacy. Law as it applies to collection, use and disclosure of personal information; includes state laws founded in tort and property, federal laws addressing specific issues, and constitutional limitations on government. Topics may include use of personal information by the media, government surveillance aimed at combating terrorism, privacy of health care information, collection and use of personal information by businesses, privacy in schools and workplace, international privacy issues. (Y)

**7671 Products Liability. Cr. 2-3**

Prereq: LEX 6600. Problems arising out of defective products. Warranty actions, strict liability in tort, damages, problem of proof, other topics. (B)

**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. (Y)

**7680 Public Health Law. Cr. 3**

Prereq: LEX 6600, LEX 6700. Legal foundations of American public health system; struggle between individual liberties and governmental interest in providing for collective health and well-being of citizens. (Y)

**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. (Y)

**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. (Y)

**7701 Real Estate Financing. Cr. 2-3**

Prereq: LEX 6500. Methods of financing the acquisition and improvement of residential and commercial real estate through the use of private sources of funds. (Y)

**7725 Religious Liberty in the United States. Cr. 2-3**

Prereq: LEX 6700. 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. (Y)

**7751 Advanced Sales and Leases under the UCC. Cr. 2-3**

Advanced study in sales areas beyond first-year contracts course. (Y)

**7756 Secured Transactions. Cr. 3**

Prereq: LEX 6500. 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. (Y)

**7758 Securities Litigation. Cr. 2-3**

Prereq: completion of first year courses; LEX 7156. Public and private actions under Securities Act of 1933, Securities Exchange Act of 1934, and Investors Act of 1940; pleading requirements for a cause of action; vicarious liability; liability of attorneys, accountants and directors; congressional limitations on state and federal securities claims; damages in private actions; public enforcement proceedings (SEC civil suits and criminal prosecutions) (Y)

**7761 Securities Regulation. Cr. 2-3**

Prereq: LEX 7156. Not open to students who have taken LEX 7061. Analysis of current problems in federal and state regulation of transactions in securities. (Y)

**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. (I)

**7800 State Constitutionalism. Cr. 3**

Prereq: LEX 6700. Distinguishing features of some state constitutions which are not shared with the parallel federal government. State judiciaries as interpreters of state constitutions. Differences in protection of civil liberties reviewed through readings in constitutional litigation. Common areas of inquiry in a theoretical field remarkably distinct from the study of the federal Constitution. (Y)

**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. (Y)

**7821 Taxation of Corporations. Cr. 4**

Prereq: LEX 7816. Not open to students who have taken LEX 7061 or LEX 7146 or LEX 7151. Federal income taxation of corporations and their shareholders; problems relating to the formation, operation, reorganization, and liquidation of the corporation. Problems between shareholders and their closely-held corporation. Analysis and resolution of corporate tax issues. (B)

**7826 Teaching Law in High School. Cr. 3**

Prereq: second- or third-year student. Students teach 20 sessions to high school students and attend seminar on teaching methods. Preparation of model lessons, lesson plans. Field supervision. (Y)

**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: consumer protection, contracting, digital signatures, privacy, jurisdic-

tion, unfair competition, online torts, alternative dispute resolution, taxation. (Y)

**7831 Trademarks and Unfair Competition. Cr. 2-3**

Prereq: LEX 6500. 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). (I)

**7836 Trial Advocacy. Cr. 3**

Prereq: LEX 7266 or consent of instructor. 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. (Y)

**7841 Trusts and Decedents' Estates. Cr. 4**

Prereq: LEX 6500. 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. (Y)

**7888 United States Foreign Relations Law.  
(P S 6870) Cr. 4**

Prereq: LEX 6700; LEX 7408 recommended. 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. (Y)

**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. (Y)

**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. (Y)

**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. (Y)

**7952 Workers' Compensation Law II. Cr. 2**

Prereq: LEX 7951. Analysis of the total and permanent disability provisions of the Michigan statute; analysis of important considerations of loss of wage earning capacity. Dependency, notice and claim; employer-employee relationship studied with emphasis on comparing that relationship with the status of independent contractor. Third-party liability and subrogation rights of employer and carrier. (Y)

**7960 Workers' Rights in a Global Economy. Cr. 3**

The global trade-labor debate, structure and function of the international labor organization, private initiatives such as anti-sweatshop campaigns and corporate codes of conduct, and select topics, including: human rights/labor rights lawsuits in the U.S.; transnational col-

lective labor action; migrant workers and female workers in the global economy; and child labor. (Y)

**7990 Directed Study. Cr. 1-2**

Prereq: prior written consent of professor directing the study, and: for LL.M. students, prior consent of the Director of the Graduate Program; for J.D. students, prior consent of the Assistant Dean for Academic Affairs. 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. (T)

**7999 Special Topics. Cr. 2-4**

Areas of current interest in the law. (T)

**8000 Advanced Topics in Corporate Governance. Cr. 3**

Prereq: LEX 7156 or consent of instructor. Students develop an analytic framework for exploring the economic logic of corporate law with respect to its various constituencies. Fiduciary duty obligations of directors and senior officers toward corporate constituencies such as shareholders, debt holders, creditors, and other stakeholders under changing circumstances. Topics may include proxy access, board function, executive pay, and corporate takeovers. (Y)

**8003 Advanced Topics in Community Development: Institutions, Law and Society. Cr. 3**

Prereq: LEX 6500. 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 agency net providers. (Y)

**8005 Advanced Issues in Bankruptcy. Cr. 3**

Prereq: LEX 7051. Topics may include: means testing provisions, sovereign immunity, Chapter 9 on municipality bankruptcy, Chapter 12 on bankruptcies for family farmers or fisherman, Chapter 15 on cross-border proceedings; provisions dealing with stockbrokers and with labor agreements; mass tort claims, environmental claims, aircraft bankruptcies, partnership bankruptcies and bankruptcy tax provisions. Students write a substantial research paper. (Y)

**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). (Y)

**8031 Commercial Law Seminar. Cr. 3**

Prereq: LEX 7756. 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. (Y)

**8035 Constitutional Theory. Cr. 3**

Prereq: LEX 6700 or consent of instructor. In-depth familiarity with basic theoretical issues relating to the American Constitution; leading approaches to those issues may include: What, if any, are the justifications for the institution of judicial review in our constitutional system? Should the courts be constrained in their exercise of judicial review, and if so, what should be the nature of that constraint and how should it be implemented? What general methodological approach or approaches should courts take in interpreting the Constitution? Materials include foundational statements of constitutional theory by figures such as Hamilton, Jefferson, Marshall, and Lincoln, and academic works by writers such as Thayer, Wechsler, Bickel,



Bork, Ely, Dworkin, and Ackerman. Student required to participate in at least one in-class presentation and to prepare a final paper that engages in a scholarly way one or more of the issues discussed. (I)

**8036 Contemporary Legal Theory: Seminar. Cr. 3**

Prereq: LEX 7426 or consent of instructor. Recent contributions to jurisprudence and philosophy of law concerning issues such as: nature of law and legal systems; relationship between law and morality; civil disobedience and our obligation to obey the law. (I)

**8037 Consumerism and Democracy. Cr. 3**

Role of consumerism in democratic self-governance, both pre-American Revolution and today. Two short and one long research-based papers required. (Y)

**8039 Contract Drafting Seminar. Cr. 3**

Prereq: six credits in LEX 6200. 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. (Y)

**8043 Criminal Law: Advanced Topics Seminar. Cr. 3**

Students write papers and make presentations on current topics of criminal law. (Y)

**8047 Current Issues in Intellectual Property. Cr. 3**

Prereq: one course in intellectual property or cyber law recommended. Current controversies related to intellectual property, focusing on issues and policy questions rather than doctrine. Presumes some familiarity with patent, trademark and copyright law, and will offer supplemental readings for students who need additional background materials. The seminar examines topics such as expanding access to knowledge through licensing, the free culture movement, public versus private information, software security research and divisions over the proper role for IP rights in international law. Students will write a paper on a topic of their choosing and will participate in a series of on-line discussions for credit. (Y)

**8048 Current Topics in International Law. Cr. 3**

Prereq: LEX 7408. 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. (Y)

**8067 Effective Oral Communication for Lawyers. Cr. 3**

Prereq: consent of instructor. 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. (B)

**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. (Y)

**8071 Environmental Law: Advanced Topics. Cr. 3**

In-depth look at a particular field. Topics may include: environmental justice; toxic torts and cleanups of contaminated parcels; problems of air quality and climate change; intersections of water quality and water quantity law; preserving biodiversity; federalism, sovereignty and natural resources; free market environmentalism; managing environmental risk. Students do individual research and make presentations in class, fulfill class reading assignments and participate in discussions. May include additional assignments such as negotiation or drafting exercises. (B)

**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. (Y)

**8081 Evidence Law: Advanced Topics. Cr. 3**

Prereq: LEX 7266 or consent of instructor. Seminar course; students write papers and give presentations on current topics of evidence law. (Y)

**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. (B)

**8161 International and Comparative Business Law: Doing Business in China Seminar. Cr. 3**

Preparation of papers and presentations on various aspects of business in China. (Y)

**8185 International Trade Seminar. Cr. 3**

Prereq: course in international business transactions recommended. Seminar in jurisprudence of World Trade Organization (WTO) and role of WTO in economic globalization. Current issues in international trade law, including WTO dispute settlement, trade in services, trade and intellectual property, and trade and social concerns such as environment, labor and human rights. (Y)

**8245 Law and Behavioral Science Seminar. Cr. 3**

How legal issues impact various areas of the behavioral sciences. Student paper and presentation. (Y)

**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. (Y)

**8256 Law in Cyberspace: Seminar. Cr. 3**

Application of current law to the Internet and proposals for new or revised laws to regulate development of global information infrastructures. Topics include: defamation, copyright, wire fraud, criminal threats to Internet activities, and problems asserting national laws in medium without national boundaries. Students will use the Law Library's computer system and not need their own computers. (Y)

**8268 Medical and Psychiatric Malpractice Seminar. Cr. 3**

Current issues in the fields. (Y)

**8271 National Labor Relations Act: Current Problems. Cr. 3**

Prereq: LEX 7501. 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. (Y)

**8280 National Security Law Seminar. Cr. 3**

Prereq: LEX 6700; LEX 7126 and LEX 7408 recommended, or consent of instructor; consent of instructor required if elected after LEX

7888. 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. (Y)

**8286 Psychiatry and the Law: Seminar. Cr. 3**

Insights of psychiatry relevant to the law and the practicing lawyer. Dynamics of behavior; theory and technique of interviewing; forensic psychiatry issues: mental hospitalization; personal injury, contractual and testamentary capacity, criminal law and family law. Patients are presented and discussed. (Y)

**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. (Y)

**8341 Sex, Procreation and Reproductive Technology: Seminar. Cr. 3**

Analysis of rights specific to procreative freedoms, current and potential impacts of technological advances on traditional legal applications of property and succession, contract, best interests standards and custody, and privacy. Emerging issues such as eugenics, sterilization, cryogenics, and artificial insemination. (B)

**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. (Y)

**8351 Sports and Inequality. Cr. 3**

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. Completion of the written final paper for this seminar would satisfy the Law School's upperclass writing requirement. (Y)

**8372 Impact of Religion on Law. Cr. 3**

World religions examined for impact for good or ill on secular law. Seminar does not deal with First Amendment or Church-State issues. Student writes paper on one area of law, explaining and evaluating the extent religion has impacted that area. (Y)

**8386 (HIS 8050) Seminar in Constitutional and Legal History of the United States. Cr. 3**

Graduate reading and research seminar in the history of American law. In first half, participants read extensively in theoretical and substantive literatures. Thereafter, group pursues individual research topics in collaboration. Students produce major research paper focused mainly on primary materials; presentation to the group included. (B)

**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. (Y)

**8502 Judicial Internship. Cr. 1-3**

Prereq: consent of Director of Clinical Education; second or third year student. Students assist participating judges as junior law clerks in research and writing and acquire familiarity with the operation of the court. Work in placement 8-15 hours per week during fall and winter terms, or 16-30 hours per week during summer term, and attend contemporaneous class in the judicial process. Credits determined by the Director of Clinical Education. One-credit internships available for summer term only. (T)

**8504 Criminal Justice Internship. Cr. 1-3**

Prereq: second or third year student; consent of the Director of Clinical Education. Students assist an attorney on the staff of a city, state or federal prosecutor or public defender organization. Public defender placements include: Federal Defender's Office, State Appellate Defender's Office, and Washtenaw County Public Defender; prosecutor placements include: Lapeer, Livingston, Macomb, Monroe, Oakland, St. Clair, Wayne, and Washtenaw County Prosecuting Attorney's Offices, the criminal division of the Michigan Attorney General, the U.S. Attorney's Office, criminal division of the City of Detroit Law Department, and City of Port Huron. Students perform extensive research and writing and participate in court proceedings. Work 8-15 hours per week during fall or winter terms, or 16-30 hours per week during summer term, and attend contemporaneous class in the criminal justice process. Credits determined by the Director of Clinical Education. One-credit internships available for summer term only. (T)

**8601 Criminal Appellate Practice. Cr. 3**

Prereq: LEX 7161, 7166, or 7266 recommended. Clinical legal writing experience. Students prepare briefs and other pleadings for indigent clients with pending felony appeals in cooperation with the Michigan State Appellate Defender Office. Students meet with instructor in individual and class sessions to discuss writing, research, and the appellate and correctional processes. Students have client contact and participate in simulated court environment. (Y)

**8602 Public Interest Internship. Cr. 1-3**

Students learn about the practice of law, development professional skills and judgment, and increase their knowledge in specialized areas of law through supervised performance of legal work for a non-profit public interest law offices. (T)

**8604 Asylum and Immigration Law Clinic. Cr. 6**

Prereq: LEX 6800, LEX 7371. 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. (Y)

**8606 Advanced Asylum and Immigration Law Clinic. Cr. 2**

Prereq: LEX 8604. Students continue to gain increased experience in different settings and issues, and may also organize and participate in community outreach projects. (Y)

**8610 Advanced Environmental Law Clinic. Cr. 2**

Prereq: good academic standing; LEX 8611. Students continue their work with the Environmental Law Clinic, gaining increased experience in different settings on issues; students work with Great Lakes Environmental Law Center and may be involved in formally representing other community organizations and public interest groups. (Y)

**8611 Transnational Environmental Law Clinic. Cr. 4**

Open only to students who have completed all required first-year law courses. Prereq. or coreq: LEX 7006 and LEX 7231; or advance written consent of instructor. 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 rule-making and permit decisions, and engaging in judicial review and enforcement litigation; students work with Great Lakes Environmental Law Center. (Y)

**8625 Government Agency Internship. Cr. 1-3**

Students learn about the practice of law, development professional skills and judgment, and increase their knowledge in specialized areas of law through supervised performance of legal work for government agencies. (T)

**8627 In-House Counsel Internship. Cr. 1-3**

Students learn about the practice of law, development professional skills and judgment, and increase their knowledge in specialized areas of law through supervised performance of legal work for in-house counsel of non-profit organizations. (T)

**8631 Business and Community Law Clinic. Cr. 4**

Prereq or coreq: Students must have completed all required first-year courses and have completed or concurrently be taking LEX 6800 and LEX 7156 It is also recommended that students take or have taken one or more of the following: LEX 7816, LEX 7420, LEX 7136, LEX 7656, LEX 7831. Students must also be in good academic standing and have at least a cumulative "C" (2.0) average. Basic provisions of nonprofit corporate law, tax law and legal ethics that affect community economic development groups. In the clinical component of the class, students assist a community group that is 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, by laws and IRS forms. (I)

**8633 Advanced Business and Community Law Clinic. Cr. 2**

Prereq: LEX 3631. Students must be in good academic standing and have at least a cumulative "C" (2.0) average. Participation requires the invitation of the instructor and a demonstrated commitment to business law, community economic development, or nonprofit law. There is no classroom component. Students will be expected to spend between five and ten hours a week continuing their work on ongoing cases that have significant deadlines during the semester. Advanced Clinic students will also work with BCL faculty to provide direction and guidance to those enrolled 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. Time spent in the Advanced Clinic will include a one-hour weekly meeting with the BCL faculty to discuss the status of client matters. Grading is on an honors, pass, low pass and no credit basis (I)

**8641 Disability Law Clinic. Cr. 6**

Prereq: consent of assistant director of clinical education; good academic standing; completion of all first year required courses; prereq. or coreq: LEX 6800. No credit after LEX 8621. 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. (Y)

**8260 Law of the City: Detroit: Seminar Cr.3**

This seminar explores legal, economic, and policy issues regarding the contemporary American city, using Detroit as the case study. Themes covered will include race, class, positive rights, community organization and identity, economics, public education, environmental justice, and legal pluralism. Toward this end, students will read a mix of constitutional and statutory provisions, case-law, administrative determinations, academic writing and current popular media. By discussing a different aspect of urban law each week, the seminar will provide students with an opportunity to explore a broad array of legal issues and opportunities in the urban environment around them. The seminar will explore both current law and potential policy reforms. Students will be responsible for a research paper and presentation on a mutually agreed-upon topic. (Y)

**8701 Law Review. Cr. 1-2 (Max. 4)**

Open only to Law Review members. (Y)

**8711 Moot Court. Cr. 1-2 (Max. 4)**

Open only to members of the Moot Court Board. Members conduct, under general faculty supervision, the program in the preparation of briefs and the hearings on oral arguments. (Y)

**8721 Student Trial Advocacy Program. Cr. 1-2 (Max. 4)**

Open only to members. Members participate in skills training; intra-school, regional, and national trial advocacy competitions. (Y)

**8731 The Journal of Law in Society. Cr. 1 (Max. 4)**

Members contribute to publication of this law journal and the annual symposium. (Y)

**8815 Fundamentals of US Legal Research. Cr. 1**

This course is restricted to foreign-trained lawyers admitted to the General Legal Studies LL.M. program. NOT open to J.D. students. Introduction in U.S. legal research skills to students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. (Y)

**8830 Introduction to the Legal System of the United States. Cr. 2**

Open only to foreign-trained lawyers admitted to the General Legal Studies LL.M. program. NOT open to J.D. students. Introduction in U.S. legal research skills to students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. (I)

**8875 Survey of United States Law. Cr. 3-4**

Open only to foreign-trained lawyers admitted to the General Legal Studies LL.M. program. NOT open to J.D. students. Concise survey of several substantive fields of United States law (principally in the area of private law) with a focus on several core legal topics integral to understanding the United States legal system as a whole and to working with U.S.-trained lawyers. Material will be drawn from a variety of areas, such as the law of contracts, property, torts, criminal law, and constitutional law. (I)

**8890 U.S. Legal Skills for Foreign Law Students. Cr. 2**

Open only to foreign-trained lawyers admitted to the General Legal Studies LL.M. program. NOT open to J.D. students. 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. (I)

**8999 Master's Essay Direction. Cr. 1-2**

Prereq: consent of advisor. (T)



# College of Liberal Arts and Sciences

DEAN: Robert L. Thomas

# Foreword

The College of Liberal Arts and Sciences comprises the traditional academic disciplines and may be considered the academic core of the University. Composed of nineteen departments, a variety of programs, and over 400 faculty members, the college is able to offer a rich and broad-based education in the liberal arts and sciences. Curricula leading to master's and doctoral degrees are offered in the physical and natural sciences, mathematics, the social sciences and the humanities. Some programs provide practical training and lead to professional certification. Most doctoral programs acquaint students with methods used in scholarly inquiry and require students to complete an independent research study. Students thus contribute to the University's mission to increase fundamental knowledge and apply that knowledge to the betterment of the human condition. Faculty in the College of Liberal Arts and Sciences have been recognized nationally and internationally for their important contributions to research and for their scholarly publications. Working with these faculty mentors, graduate students acquire an education that leads to the joy of intellectual discovery and its application in the real world.



## Certificate Programs

*GRADUATE CERTIFICATE in Economic Development*

*GRADUATE CERTIFICATE in Peace and Security Studies*

*GRADUATE CERTIFICATE in World History (Bridge Program)*

## Master's Degrees and Majors

*MASTER OF ARTS with majors in*

<i>Anthropology</i>	<i>Mathematics</i>
<i>Biological Sciences</i>	<i>Mathematics Applied</i>
<i>Chemistry</i>	<i>Near Eastern Languages</i>
<i>Classics</i>	<i>Nutrition and Food Science</i>
<i>Economics</i>	<i>Philosophy</i>
<i>English</i>	<i>Physics</i>
<i>German</i>	<i>Political Science</i>
<i>History</i>	<i>Psychology</i>
<i>Industrial and</i>	<i>Romance Languages</i>
<i>Organizational Psychology</i>	<i>Sociology</i>
<i>Mathematical Statistics</i>	<i>Speech-Language Pathology</i>

*MASTER OF ARTS in Employment and Labor Relations*

*MASTER OF ARTS in Language Learning*

*MASTER OF ARTS in Linguistics*

*MASTER OF PUBLIC ADMINISTRATION*

*MASTER OF URBAN PLANNING*

*MASTER OF SCIENCE with a major in*

<i>Biological Sciences</i>	<i>Geology</i>
<i>Chemistry</i>	<i>Molecular Biotechnology</i>
<i>Criminal Justice</i>	<i>Nutrition and Food Science</i>
	<i>Physics</i>

## Doctoral Degrees and Majors

*DOCTOR OF PHILOSOPHY with majors in*

<i>Anthropology</i>	<i>Mathematics</i>
<i>Biological Sciences</i>	<i>Modern Languages</i>
<i>Chemistry</i>	<i>Nutrition</i>
<i>Communication</i>	<i>and Food Science</i>
<i>Sciences &amp; Disorders</i>	<i>Philosophy</i>
<i>Economics</i>	<i>Physics</i>
<i>English</i>	<i>Political Science</i>
<i>History</i>	<i>Psychology</i>
	<i>Sociology</i>

*DOCTOR OF AUDIOLOGY*

# Academic Regulations

## ADMISSION REQUIREMENTS

Admission to any graduate degree program is contingent upon meeting the admission requirements of the Graduate School. For further information on these requirements, see page 18.

Preference is given to those students who have achieved superior undergraduate scholastic records and who evidence superior abilities.

All credits prerequisite to a degree or certificate program must be earned prior to or concurrent with the initial graduate credits applicable to the program. If undergraduate preparation for the major field is considered deficient, additional coursework may be required at the undergraduate level. Many programs have additional individual admission requirements. Students should consult the subsequent departmental sections in this bulletin for specific requirements in each field of study.

## Graduate Record Examinations

The Graduate Record Examination (GRE) is used to assist advisors in evaluating educational preparation and to serve as a basis for planning future study. There is no uniform policy concerning GREs. Some departments require GRE scores from all applicants for admission, while others require scores only from students in specified classifications. Students should consult the department in which they wish to major to determine which examinations must be taken.

Students required to take these examinations must apply at the Testing and Evaluation Office, 698 Student Center, either prior to or at the time of admission. Students who previously have taken the examination may have transcripts of these scores submitted. After the initial registration, no subsequent enrollment will be permitted nor will candidacy be authorized until examination requirements have been fulfilled.

## AGRADE' — Accelerated Graduate Enrollment

The College of Liberal Arts and Sciences has established an accelerated combined undergraduate and graduate program ('AGRADE') whereby qualified seniors in the College of Liberal Arts and Sciences 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 the major department is an 'AGRADE' participant. (Students should contact the chairperson of their major department to ascertain its 'AGRADE' status.) Those who elect the 'AGRADE' program may expect to complete the Bachelor's and Master's degrees in five years of full-time study.

**Eligibility:** 'AGRADE' applicants must have an overall g.p.a. of 3.5. 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 Graduate Admissions Committee of his/her major department all of the materials which that department requires for normal admission, EXCEPT for the Graduate Record Examination (GRE) required by some departments. For departments in which the GRE is required, it is expected that this examination will be taken at the normal time and scores forwarded to the major department. Specific departmental admission requirements can be found in this bulletin or obtained from the Graduate Office of the College of Liberal Arts and Sciences (313-577-5188).

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 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.

For more details about the 'AGRADE' program, contact the chairperson of the department in which 'AGRADE' enrollment is sought or the Graduate Office of the College of Liberal Arts and Sciences (313-577-5188).

## DEGREE REQUIREMENTS

Graduate degrees are conferred not merely upon the completion of a prescribed number of courses nor necessarily after a given period of residence, but rather in recognition of each candidate's outstanding ability and high achievement as evidenced in all course work, research, scholarly writing, examinations and personal fitness for a chosen profession. All course work must be completed in accordance with the academic procedures of the Graduate School (see pages 18-36) and College of Liberal Arts and Sciences regulations. In addition to the general Graduate School requirements for degrees and to the information provided below, other requirements are specified by the individual graduate departments. Students should consult the programs and requirements of the departments in which they plan to major.

## Candidacy

Candidacy is an advanced status recommended by student advisors and authorized by the Graduate School or Liberal Arts and Sciences Graduate Office upon evidence of superior scholarship, appropriate personal qualities and promise of professional competence. Students should note that admission as an applicant does not assure acceptance as a candidate for a degree, and that candidacy is a necessary but not sufficient requirement for graduation.

To be eligible for candidacy, students must file officially approved Plans of Work. The Plan should provide for effective concentration in a major field, with proper supporting courses in related fields. Ph.D. applicants should file their Plan with the Graduate School; master's applicants should file with the graduate officer of the College of Liberal Arts and Sciences. In preparing a Plan, students should evaluate with care their personal and professional objectives as well as all degree and departmental requirements. Normally, a student enrolled in a master's degree program is expected to file a Plan of Work by the time twelve graduate credits or their equivalent have been earned.

It is recommended that an approved Plan be filed by applicants for the Ph.D. degree before approximately forty credits beyond the baccalaureate degree have been earned. In addition to filing the Plan, students must satisfy any foreign language requirements.

Candidacy is reached after the Plan of Work has been approved, the final Qualifying Examination has been passed, approximately fifty credits have been completed, and the dissertation committee has been named.

## Commencement

Information concerning commencement announcements, caps and gowns, invitations, tickets, time and place, assembling and other relevant items will be mailed to graduates by the Alumni Office 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.

## MASTER'S DEGREE REQUIREMENTS

In most master's degree programs, the minimum requirement for the degree is thirty-two credits under either Plans A, B, or C as cited below. At least twenty-four credits must be taken in residence. At least six credits of coursework in the major field, in addition to the essay or thesis, must be in courses open only to graduate students (courses numbered 7000 and above).

**Plan A** requires twenty-four credits of course work plus an eight credit thesis.

**Plan B** requires twenty-nine credits of course work plus a three credit essay.

**Plan C** requires thirty-two credits of course work; an essay or thesis is not required. Most departments require a final comprehensive examination. Students should consult a departmental advisor for details.

These requirements vary slightly by department; see listings under the individual departments for exact information. In accordance with the time limitation of the Graduate School, all requirements for the master's degree must be completed within a six-year period.

## DOCTORAL DEGREE REQUIREMENTS

### Preliminary Qualifying Examination

Responsibility for preliminary qualifying examinations is vested in the graduate faculty of each department, specifically in its committee on doctoral study. Accordingly, committees may require this examination of all candidates or of any candidate prior to the final qualifying examination.

### Final Qualifying Examination for Candidacy

The final qualifying examination is required of all applicants and will be a written examination. It may also contain an oral portion if the department requires one. Consult the specific department for requirements.

The written qualifying examination will cover the applicant's major and minor areas and may include such other related matters as the doctoral examining committee may prescribe. If an oral qualifying examination is required, it will be conducted by the departmental qualifying examination committee within sixty days after the written qualifying examination has been passed. This examination will relate to the subject matter of the written examination, the applicant's major and minor areas and other pertinent matters.

If an examining committee does NOT certify that the applicant has passed either the written or oral examinations, it must make specific recommendations with reference to admitting the applicant to a second examination and specify any additional work that should be completed prior to such an examination. If a second examination is held, it must be scheduled within one calendar year and shall be considered final.

Selection of the student's doctoral committee, including one member from outside the student's department, is a requirement for candidacy. Substitutions in the membership of this committee may be made prior to submission of the Outline and Record Form to the Graduate School. After this form is approved, any change in committee membership requires written approval from the Graduate School. This committee conducts the final dissertation defense.

## Essays, Theses, and Dissertations

There is no prescribed format for the master's essay. Essay guidelines, indicating standard style manuals for each department and title-page samples, are available in the Liberal Arts and Sciences Graduate Office, 2155 Old Main.

Master's degree candidates under the essay plan register for the course numbered 7999, Master's Essay Direction, in the department of their major; a total of three credits must be elected.

The original copy of the essay should be submitted to the Liberal Arts and Sciences Graduate Office after it is approved and signed by the advisor. This copy will be returned to the department.

The thesis or dissertation *must be an original work, either in or definitely related to the student's major area of specialization*. If proper standards of quality, objectivity, originality, and independence are maintained, candidates may use data that they have derived from their University research. Neither the results of the research nor the publication of findings can be restricted by any non-University agency nor can they be published prior to acceptance of the dissertation by the Graduate School unless prior approval of such publication has been obtained from the advisor. Advisors have primary responsibility for approval of the essay or thesis, but every member of a doctoral committee must read, approve and sign the dissertation.

Students may not begin work on a manuscript until they have submitted an approved Plan of Work and outline form. They may then register for the thesis or dissertation credits and pay regular fees in the same manner as for all other course work.

Master's candidates under the thesis plan register for the course numbered 8999 in the department of their major. This course is entitled *Master's Thesis Research and Direction* and must be elected for a total of eight credits. Ph.D. candidates must enroll in thirty credits of doctoral dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively) offered under various subject area codes, in consecutive academic year semesters.

The publication and dissemination of research findings will not be restricted by the University after the manuscript has been received and accepted by the Graduate Office.

### Outline and Record Form

Before students begin working on theses or dissertations, they must file outlines and record forms. Master's candidates must prepare three copies which, after receiving departmental approval, will be forwarded to the Liberal Arts and Sciences Graduate Office. Doctoral candidates must prepare four copies which, after receiving departmental approval, will be forwarded to the Graduate School.

### Financial Aid

For general sources of graduate financial aid, see the section on Graduate Financial Assistance, beginning on page 26. Specific information may be found in various departmental sections of the College of Liberal Arts and Sciences, below.



## INTERDISCIPLINARY COLLEGE MASTER'S DEGREE PROGRAMS

### Master of Arts in Employment and Labor Relations (MAELR)

**Director:** Marick Masters

Email: marickm@wayne.edu

**Academic Services Officers:** Linda J. Johnson

Email: ab1232@wayne.edu

Frank Koscielski

Email: ac2668@wayne.edu

**Office:** 5401 Cass (Walter P. Reuther Library); 313-577-0175;

**Fax:** 313-577-5359

**Website:** <http://www.clas.wayne.edu/maelr/>

#### Advisory Committee

**Economics:** Allen Goodman

**Management:** James Martin

**Psychology:** Marcus Dickson

#### Faculty

**Political Science:** Michael Goldfield

**Psychology:** Cary Lichtman

**Management:** James Martin, Paul Reagan

#### Part-Time Faculty

Michael Nowakowski, Arthur Schwartz, David Radtke, Reginald Jenkins

The Master of Arts in Industrial Relations (MAELR) is an inter-college as well as an interdisciplinary graduate degree program jointly sponsored by the Departments of Economics and Psychology in the College of Liberal Arts and Sciences, and Management in the School of Business Administration. Policy direction is provided by the Academic Policy Committee composed of one representative of each sponsoring department

MAELR is designed to provide professional preparation for a career in human resource management and labor-management relations. Students will be prepared in this discipline for positions in government, business and union organizations, and the program staff will assist in the appropriate job placement of its graduates. This program will also provide knowledge and skills for persons who contemplate entering or who are already engaged in self-employment involving labor relations, such as labor arbitration.

### Admission

Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Admission is limited to holders of baccalaureate degrees from accredited institutions and is granted only to those applicants who evidence promise of success in industrial relations study.

Admission to the program requires three letters of recommendation and completion of the program application form, in addition to the transcripts and the application form required by Graduate Enrollment Services. The letters of recommendation must be written by college or university professors under which the applicant has studied, and/or current or former employers. The Graduate Record Examination (GRE) or the Graduate Management Admissions Test (GMAT) is required of all applicants. Applications will be evaluated on the basis of the following: (1) the overall or upper-division grade point average; (2) GRE and GMAT scores; (3) applicant's performance in previous graduate courses, if any; (4) quality of the applicant's employment experience at increasing levels of responsibility; and (5) other appropriate indicators of successful performance as a graduate student, including the content of reference appraisals. Students applying to

the program who have completed a graduate degree, may be exempt from submitting GRE and GMAT scores.

### Prerequisites

Students who have been admitted but who do not possess all of the following prerequisites must remedy any deficiency, without graduate credit, before graduate courses are taken in the degree program: statistics (equivalent to ECO 5100, B A 2300, or EER 7630); introductory microeconomics (such as ECO 2010) and an equivalent of PSY 2100, Psychology in the Work Place. A grade of 'C' or better is required of all prerequisite courses.

### Degree Requirements

MAELR is offered only as a Plan C master's program requiring the satisfactory completion of at least thirty-six credits in graduate course work, including a core curriculum of twenty-four credits and twelve electives:

*The Core Curriculum is as follows:*

ECO 6480 -- Advanced Economics of Work: Cr. 3

ELR 7000 -- Introduction to Labor and Employment Relations: Cr. 3

ELR 7450 -- Employment Relations Law in North America: Cr. 3

ELR 8500 -- Strategic Analysis of North American Labor

and Human Resources Issues (Capstone course:

prerequisites include all other Core Courses.): Cr. 3

MGT 7640 -- Management of Human Resources: Cr. 3

MGT 7750 -- Labor Relations and Collective Bargaining: Cr. 3

MGT 7780 -- Concepts and Processes of Dispute Resolution I:

Negotiating Theory and Practice (D R 7210): Cr. 3

PSY 6570 -- Research Methods in Industrial/Organizational

Psychology: Cr. 3

Selection of electives will be guided by the student's prior preparation and career objectives and will require the approval of the Program Director. Electives are not limited to courses offered by the sponsoring departments.

ELR 8500 should be taken in the last nine credits of the program and only after the completion of the six other Core Courses.

The topic and methodology of a Directed Study must have the prior approval of the Director, who must also approve the appointment of the faculty member who will supervise the project.

**Scholarship:** All course work must be completed in accordance with the academic procedures of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

### Retention

Graduate students in the MAELR program will be required to earn a 'B' (3.0) average to satisfy degree requirements. *If a grade below 'B' is received in a core course, that course must be repeated promptly and a grade of 'B' or better obtained. A grade of 'C' in two graduate courses will constitute a sufficient basis for dismissal from the program.*

### Candidacy

Students are expected to file a Plan of Work when nine graduate credits in the MAELR curriculum have been earned. Upon approval of the Plan of Work the student's rank will be changed from 'applicant' to 'candidate' provided the applicant's grade point average is at least 3.0.

### Waivers

A Core Course may be waived only if the student demonstrates, to the satisfaction of the Academic Policy Committee, that he/she has

completed an equivalent graduate-level course with a grade of 'B' or better and elects an additional approved elective course in its place.

## Advising

All academic advising will be done by the Academic Services Officer. Students should call the MAELR Office (313-577-0175) for information on advising hours.

## Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Aid, beginning on page 26 of this bulletin. The MAELR program awards a limited number of \$500.00 scholarships on a competitive basis.

## Employment and Labor Relations Courses (ELR)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 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. (F)

### 7010 Health Care, Retirement, and Employee Benefit Plans. Cr. 3

Comprehensive understanding of employee benefits issues and practices. (F)

### 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. (Y)

### 7420 (P S 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. (B)

### 7430 Public Sector Labor Relations. (P S 6340) Cr. 3

Prereq: graduate standing. History, present functions, problems and current controversies surrounding public sector unions. (B)

### 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. (S)

### 7550 Selected Topics in Industrial 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. (I)

### 7600 Internship in Employment and Labor Relations. Cr. 1-3 (Max. 3)

Prereq: enrollment in employment and labor relations program and consent of director. 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. (T)

### 7700 Current and Future Trends in Collective Bargaining. Cr. 3

Prereq: four employment and labor relations program core courses or consent of instructor. 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. (F)

### 7990 Directed Study. Cr. 1-3

Prereq: employment and labor relations program course in relevant field; prior approval of employment and labor relations program director for topic and instructor. Intensive study of significant industrial relations topic against background of more general course work. Preparation of term paper required. (T)

### 7999 Master's Essay Direction. Cr. 3

Prereq: enrollment in employment and labor relations program; completion of 24 credits in employment and labor relations program; consent of advisor. Plan B alternative to a three-credit elective course. Opportunity for intensive research and writing experience on relevant subject matter. (T)

### 8000 International Industrial Relations and Human Resources. (MGT 7810) Cr. 3

Prereq: MGT 7640, MGT 7750. Labor relations and human resource management from an international perspective. Topics include: international investment, industrial relations strategies of U.S. multinationals, international relations systems in North America, Western Europe, and Asia-Pacific regions. (I)

### 8500 Strategic Analysis of North American Labor and Human Resources Issues. Cr. 3

Prereq: completion of all core courses; must be taken as part of last nine credits in employment and labor relations program. 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. (Y)

## Master of Arts in Multidisciplinary Science

Office: 364 Physics Bldg., 577-3005 or 577-2721

The Master of Arts in Multidisciplinary Science is designed for secondary school science educators seeking a deeper or broader background in science. The curriculum is designed to focus on basic scientific principles and to explore new developments in science in a multidisciplinary context. This program is designed for part-time students, with courses offered in late afternoon and on weekends during the academic year and full-time during the summer.

**Admission:** As of October 2011, no new students will be admitted to the Master of Arts in Multidisciplinary Science Program. Those students currently in the program will be served by the faculty and staff and are encouraged to complete their degrees. Advisors will be available to current students for advising and to answer questions related to their plans of work and progress toward degrees.

**DEGREE REQUIREMENTS:** Students must complete a total of thirty-two credits of Plan C graduate study, satisfying one of the following two options. Option I provides broader training in the life sciences, physical sciences, and earth and space science. Option II allows a concentration in one of these areas. A minimum of six credits must be earned in courses numbered 7000 or above.

### Option I: General Science

SCI 7100 -- Experimental Design and Data Analysis: Cr. 3

EARTH AND SPACE SCIENCE (two courses from the following):

GEL 5030 -- Earth Science for Educators: Cr. 4

GEL 5200 -- Oceanography for Educators: Cr. 4

PHY 6160 -- Meteorology for Secondary-School Educators: Cr. 3-4  
PHY 6180 -- Astronomy and Planetary Geology for  
Secondary-School Educators (AST 6180): Cr. 3-4

**LIFE SCIENCES (two courses from the following):**

BIO 6210 -- Ecology/Evolution: Cr. 4  
BIO 6220 -- Biology of the Cell: Cr. 4  
BIO 6230 -- Genetics: Cr. 4  
CHM 5600 -- Survey of Biochem: Cr. 3 ( Organic Chem. prereq)  
NFS 6280 -- Physiology and Nutrition: Cr. 4  
SCE 6080 -- Teaching Environmental Studies: Cr. 3

**PHYSICAL SCIENCES (two courses from the following):**

CHM 5780 -- Atoms, Molecules and Models: Cr. 3  
CHM 7360 -- Concepts in Advanced Chemistry: Cr. 3  
PHY 6100 -- Classical Physics: Secondary School Educators: Cr. 3  
PHY 6120 -- Energy Generation and Consumption for  
Secondary-School Educators: Cr. 3-4  
PHY 7010 -- (PHY 5015) Mod. Physics for Secondary-School Educators: Cr. 3-4

**ELECTIVES (4-11 Credits):** Any science course numbered above 5000 offered in the College of Liberal Arts and Sciences or approved by advisor.

*Option II: Area of Concentration*

SCI 7100 -- Experimental Design and Data Analysis: Cr. 3

One course in each of three sciences groups listed in Option 1:  
Cr. 12-15

At least twelve credits in one area of focus (may include other graduate courses in selected departments).

**Scholarship:** All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees: see the sections of this bulletin on pages 32 and 279, respectively.

## Interdisciplinary Science Courses (SCI)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

**5300 Science Instruction for Teachers. Cr. 3**

Open only to high school teachers; offered for graduate credit only. Prereq: consent of instructor. Discussion of current topics in interdisciplinary science. (B)

**7100 Experimental Design and Data Analysis. Cr. 3**

Prereq: mathematics proficiency to upper-level algebra; teaching certificate. Scientific process of investigation through experimentation and statistical analysis. For science teachers, with laboratory exercises than can be translated to schools. (F)

## COLLEGE DIRECTORY

DEAN: Robert L. Thomas: 2155 Old Main; 313-577-2515

**ASSOCIATE DEANS:**

Christine Chow: 2155 Old Main; 313-577-2520  
Miriam Greenberg: 2155 Old Main; 313-577-2516  
Donald Haase: 2155 Old Main; 313-577-2818  
Joe Rankin: 2155 Old Main; 313-577-2094

**STUDENT SERVICES OFFICE**

Office: 2155 Old Main; 313-577-5188, 313-577-3117  
Andrea Harp: 2155 Old Main; 313-577-5188  
Elizabeth Stone: 2155 Old Main; 313-577-2516

**DEPARTMENTAL/PROGRAM OFFICES**

Africana Studies: Rm. 11002, 5057 Woodward Avenue;  
313-577-2321

Anthropology: 3054 Faculty/Admin. Bldg.; 313-577-2935

Biological Sciences: 1360 Biological Sciences; 313-577-2873

Chemistry: 169 Chemistry Bldg.; 313-577-7784

Classical and Modern Languages, Literatures, and Cultures:  
485 Manoogian; 313-577-3002

Communication Sciences and Disorders: 207 Rackham Bldg.;  
313-577-3339

Criminal Justice: 3291 Faculty/Admin. Bldg.; 313-577-2705

Economics: 2074 Faculty/Admin. Bldg.; 313-577-3345

Employment and Labor Relations, Master of Arts in:

5401 Cass, Walter P. Reuther Library; 313-577-0175

English: Rm. 9408, 5057 Woodward Avenue; 313-577-2450

Environmental Science Program: 0224 Old Main; 313-577-6412

Foreign Language Technology Center: 385 Manoogian;  
313-577-3022

Geology: 0224 Old Main; 313-577-2506

History: 3094 Faculty/Admin. Bldg.; 313-577-2525

International Studies: 355 Manoogian; 313-577-8072

Jewish Studies: 3089 Faculty/Admin. Bldg.; 313-577-2679

Junior Year in Germany Program: 401 Manoogian; 313-577-4605

Labor Studies: 3178 Faculty/Admin. Bldg.; 313-577-2191

Latino and Latin American Studies, Center for:

3324 Faculty/Admin. Bldg.; 313-577-4378

Linguistics: Rm. 10303.1, 5057 Woodward Avenue; 313-577-8642

Mathematics: 1150 Faculty/Admin. Bldg.; 313-577-2479

Multidisciplinary Science: 220 Physics Bldg.; 313-577-7816

Nutrition and Food Science: 3009 Science Hall; 313-577-2500

Peace and Conflict Studies: 2320 Faculty/Admin. Bldg.;  
313-577-3453

Philosophy: Rm. 1202, 5057 Woodward Avenue; 313-577-2474

Physics and Astronomy: 135 Physics; 313-577-2721

Political Science: 2040 Faculty/Admin. Bldg.; 313-577-2630

Psychology: 7th Floor, 5057 Woodward Avenue; 313-577-2800

Religious Studies: Rm 9203.1, 5057 Woodward Avenue;  
313-577-7717

Sociology: 2228 Faculty/Admin. Bldg.; 313-577-2930

Urban Studies and Planning: 3198 Faculty/Admin. Bldg.;  
313-577-2701

Women's Studies: Rm. 12100.3, 5057 Woodward;  
313-577-6331

**Website:** <http://www.clas.wayne.edu>

Mailing address for all offices: (Department Name), College of Liberal Arts and Sciences, Wayne State University, 4841 Cass Avenue, Detroit, Michigan 48202

# Anthropology

Office: 3054 Faculty Administration Building; 313-577-2935

Chairperson: Thomas Killion

Academic Services Officer: Susan Ward

Graduate Director: Stephen Chrisomalis

Web: <http://www.clas.wayne.edu/Anthropology/>

## Professors

Barbara C. Aswad (Emerita), Tamara Bray, Bernice A. Kaplan (Emerita), Guerin Montilus, Bernard Ortiz de Montellano (Emeritus), Mark Luborsky, Andrea Sankar

## Associate Professors

Allen W. Batteau, Sherylyn H. Briller, Gordon L. Grosscup (Emeritus), Thomas W. Killion, Barry Lyons

## Assistant Professors

Stephen Chrisomalis, Yuson Jung, Todd Meyers, Andrew Newman, Krysta Ryzewski

## Lecturer

Teddi Setzer

## Graduate Degrees

*MASTER OF ARTS with a major in Anthropology*

*DOCTOR OF PHILOSOPHY with a major in Anthropology*

Anthropology is a comparative social science that seeks to uncover principles that govern human behavior. Anthropology is divided into the fields of cultural, physical, archaeological, and linguistic anthropology. Wayne State's department offers a broad-based Master of Arts degree in anthropology. Additionally, the Ph.D. with a major in anthropology is offered in the major subfields of the discipline as well as specialties in urban, medical, business/organizational, and applied anthropology.

Today, anthropologists are employed in a wide range of areas. Some work in traditional institutions such as colleges, universities, and museums, but the general and specialized skills of anthropology also prepare them for employment in numerous other public and private settings. These include most notably health, governmental, international, and social agencies, business and organizational settings, and institutions supporting historic preservation and public archaeology. Accordingly, graduate programs in this department are designed to accommodate a variety of specific student interests and objectives.

Individuals who hold degrees in fields other than anthropology and desire admission to graduate degree programs will be individually reviewed. Admission will be granted at the discretion of the Graduate Committee after review of the applicant's background, training, and academic standing; supplementary work may also be individually prescribed.

**Scholarship:** All course work completed to satisfy the following degree requirements must be done in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively. All students are required to maintain a 'B' average. A grade of 'B-minus' or below in two courses will be sufficient reason to dismiss a student from a graduate program. For the purposes of evaluating this condition, a grade of 'WF' is considered to be a failing grade.

To repeat a course, a student will need to submit a "Petition to Repeat a Graduate Course" form to the Graduate Committee for consideration. Students may not repeat a class without prior approval. The Department only allows two course repeats for a class where a student receives an insufficient grade.

## Master of Arts with a Major in Anthropology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, applicants must satisfy the following:

- 1) The student must have completed Anthropology 2100 (Introduction to Anthropology) or its equivalent. Admission may be granted while this deficiency is remedied.
- 2) The student must submit three letters of recommendation.
- 3) The student must submit a letter of intent outlining his/her research interests and intentions in the field of anthropology, so that the Department may determine if the student's goals are compatible with its available expertise. The student may also mention any life history experience which may be helpful in the decision to admit.
- 4) A writing sample such as a research paper for a previous course.
- 5) The student may arrange for his/her Graduate Record Examination (GRE) scores to be sent to the Department if he or she wishes.
- 6) The student must have an undergraduate grade point average (g.p.a.) of at least 3.2. Admission may be granted in exceptional cases where the grade point average is less than 3.2. Admission is contingent upon g.p.a., GRE scores (if applicable), recommendations, the compatibility of research and educational goals with Departmental resources, and the availability of openings in programs with high demand.
- 7) All applications and admissions material must be submitted to the Office of Graduate Admissions by the following deadlines: October 1 for admittance to the Winter Semester, and January 10 for admittance in the following Fall Semester.

Each student must file a Plan of Work prior to completion of twelve credits

**DEGREE REQUIREMENTS:** Students pursuing the M.A. in anthropology have three options, referred to as Plans A, B, and C, below.

ANT 7005 is required for all first-year graduate students. Students who have not completed ANT 2100 or the equivalent as an undergraduate must complete this course with a grade of at least 'A-minus' within their first year of graduate studies (credits for this course do not apply toward the M.A.)

Students must petition to the Graduate Committee for any exceptions to the M.A. requirements.

**Coursework:** The following courses, or their equivalents, must be completed either as an undergraduate (see note below) or graduate student.

Core: eighteen credits

- ANT 5140 -- Biology and Culture: Cr. 3
- ANT 5270 -- Concepts and Techniques in Archaeology: Cr. 3
- ANT 5320 -- Language and Societies: Cr. 3
- ANT 5700 -- Applied Anthropology: Cr. 3
- ANT 7005 -- Thinking and Writing Anthropology: Cr. 3
- ANT 7010 -- Anthropological Theory I: Cr. 3

Methods Options: four credits (choose one in consultation with advisor)

- ANT 5210 -- Anthropological Methods: Cr. 4
- ANT 5230 -- Mixed Methods: Cr. 4
- ANT 5280 -- Field Work in Archaeology of Americas: Cr. 4

Electives: nine credits

ANT 7xxx -- Seminar: Cr. 3

ANT 7xxx -- Seminar: Cr. 3

Elective: Cr. 3

Graduation requirements (one of the following)

ANT 7900 -- Synthesis (Plan C): Cr. 3

ANT 7999 -- Essay (Plan B): Cr. 3

ANT 8999 -- Thesis (Plan A): Cr. 8

**Total Credits:** 33-34

Students opting for Plan A (thesis) take ANT 8999 in lieu of the nine credits of electives. The M.A. thesis is an independent research project taking multiple terms and culminating in an oral defense. The M.A. essay, ANT 7999 is a shorter piece of independent work, often 30-60 pages double-spaced, and intended to be written within a single term. ANT 7900 is an integrative, holistic and comparative course that synthesizes diverse analytical perspectives and methodologies.

Students entering the M.A. program with a B.A. from WSU who have completed any of the core courses for undergraduate credit (with a grade of 'B' or better) do not need to repeat them, however, they must complete the eighteen required graduate credits with any other ANT 5000 or higher level course chosen in consultation with their advisor.

Students intending to apply for the Ph.D. program are strongly encouraged to take the second semester of theory, ANT 7020 (Anthropological Theory II), as an elective or seminar. For the student who does not intend to pursue a Ph.D., this course is also recommended for a comprehensive understanding of contemporary anthropological thought today.

Students wishing to specialize their degree in specific applied subfields may substitute the nine elective credits with one of the following course sets:

**Concentration in Medical Anthropology**

ANT 5400 -- Culture, Health, and Illness: Cr. 3

ANT 7420 -- Anthropology Practicum: Cr. 3

One additional medical anthropology course: Cr. 3

**Concentration in Museum Studies**

ANT 5600 -- Museum Studies: Cr. 3

ANT 7420 -- Anthropology Practicum: Cr. 3

ANT 7625 -- Material Culture: Cr. 3

**Concentration in Business Anthropology**

ANT 5800 -- Anthropological Perspectives on Business: Cr. 3

ANT 7420 -- Anthropology Practicum: Cr. 3

ANT 7700 -- Seminar in Business & Industrial Anthropology: Cr. 3

**Concentration in Applied Archaeology**

ANT 6555 -- CRM & Public Archaeology: Cr. 3

ANT 6570 -- Archaeological Laboratory Analysis: Cr. 3

ANT 7420 -- Anthropology Practicum: Cr. 3

Additional information regarding this program is available from the Department upon request.

## Doctor of Philosophy with a Major in Anthropology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Only a limited number of applicants who have demonstrated superior ability can be accepted in this program.

In addition to the transcripts and other materials required by the Graduate School, the Department requires all materials cited above for admission to the Master of Arts program; writing sample, three letters of recommendation, and letter of intent. The GRE is also required. An applicant's admissibility into the doctoral program will not be reviewed until all these materials have been received.

All application and admissions materials must be submitted to the Office of Graduate Admissions by January 10 to begin in the Fall semester.

Ph.D. candidacy status is established by filing a *Plan of Work* and successfully completing Ph.D. Qualifying Examinations. The *Plan of Work* should be filed at the time the student has completed ten to twelve graduate credits.

**DEGREE REQUIREMENTS:** The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. The thirty credit dissertation registration requirement is fulfilled by registering for the courses ANT 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Once the student has attained candidate status, he/she is required to register for doctoral dissertation credits. Students must register for 9000-level credits (ANT 9991, 9992, 9993, and 9994) through the Graduate Office and must fulfill 7.5 9000-level credits each semester for four consecutive semesters (excluding spring-summer). All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

The student is expected to have completed as an undergraduate or graduate student ANT 2100 and the core requirements for an M.A. degree in anthropology at Wayne State University. In addition, the student must complete two or more 7000-level anthropology seminars and ANT 7010, 7020, 7200, 7210, and 7780. ANT 7010 is required for all first-year graduate students. The student must also complete eight graduate-level credits (cognate credits) in a discipline outside anthropology. All eight cognate credits are to be taken within the same discipline. A minimum of thirty credits of graduate work must be at the 7000 level or above (excluding dissertation credits). Students must petition the Graduate Committee for course equivalents, substitutes, or any other exceptions to the Ph.D. requirements. The student is expected to command in detail theories, concepts, methodology, and research techniques in common usage in the student's subfield of concentration (cultural anthropology, linguistics, archaeology, or physical anthropology).

In the Qualifying Examinations, the student must demonstrate, by written examination, competence in depth in at least three areas of specialization relating to the dissertation topic, including mastery of a broad range of theoretical materials and an ability to think and write analytically. After passing the Qualifying Examinations and prior to beginning fieldwork, the student must submit the following documents:

- a) an oral defense of the dissertation prospectus and an approved doctoral dissertation outline and record of approval form;
- b) a prospectus; and
- c) a Human Investigations Committee Behavioral Protocol Summary Form.

Additionally, the student is expected to:

1. complete substantial field research, which will ordinarily be of sufficient duration and scope to provide materials for the student's dissertation (in the case of physical anthropology and some other specializations, the dissertation may be based on laboratory research); and
2. submit an acceptable dissertation and present a final lecture.

**Foreign Language Requirement:** Doctoral students must demonstrate a proficiency in an approved scholarly language. Approved foreign languages include (but are not limited to) Arabic, Chinese, French, German, Italian, Japanese, Portuguese, Russian and Spanish. Proficiency may be demonstrated in any of the following ways:

1. a grade of 'C' or better in one and one-half years of work in the language offered to meet the requirement (three semesters or five quarters of coursework at any accredited college or university);
2. satisfactory performance on a standardized (Educational Testing Services) examination; or
3. certification of competence to carry out research in the relevant language by a member of the graduate faculty of Wayne State or an equivalent university. The nature of the tools of research and requirements for satisfactory proficiency will be determined by each student's doctoral committee. Additionally mandated tools of research may include additional statistics, mathematics, computer science and/or a field language.

**Additional Information:** A more detailed discussion of the doctoral program is available from the department or on our website at [www.clas.wayne.edu/anthropology](http://www.clas.wayne.edu/anthropology). See also Graduate Degree Requirements, page 37, for information on the required minor, residency, and other University requirements.

## Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin. The following information pertains to the Anthropology Department:

**Assistantships and Fellowships:** A limited number of assistantships and fellowships are available. Consult the Department Chairperson or Academic Services Officer for further details.

**Leonard Moss Memorial Scholarship:** One or more awards are made annually to graduate students in support of tuition or an outstanding research proposal.

**Barbara C. Aswad Award:** Awards are made annually to graduate students to support research in cultural anthropology.

## GRADUATE COURSES (ANT)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5060 (ANT 5060) Urban Anthropology. (SOC 5540) Cr. 3**

Prereq: ANT 2100 or consent of instructor. 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. (Y)

### **5140 Biology and Culture. Cr. 3**

Prereq: ANT 2100 or 2110 or consent of instructor. 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. (Y)

### **5170 Political Anthropology. Cr. 3**

Prereq: ANT 2100 or 5200 or consent of instructor. 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. (I)

### **5180 Forensic Anthropology. Cr. 3**

Prereq: CRJ 1010 or former CRJ 2000 or ANT 2110 or consent of instructor. 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. (Y)

### **5210 Anthropological Methods. Cr. 4**

Prereq: ANT 2100 or consent of instructor. Required for majors. 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. (Y)

### **5230 Mixed Methods Research Methodology. Cr. 4**

Prereq: ANT 2100, ANT 5380, or ANT 5996. Introduction to statistics for students already trained in anthropological or qualitative methods; statistical concepts and techniques. (B)

### **5240 Cross Cultural Study of Gender. Cr. 3**

Prereq: ANT 2100 or consent of instructor. Evolutionary and cultural bases of gender roles using a world sample; division of labor, marriage and sexual behavior, power and ideology. (I)

### **5260 The African Religious Experience: A Triple Heritage. (AFS 5260) 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. (I)

### **5270 Concepts and Techniques in Archaeology. Cr. 3**

Prereq: ANT 2100 or 3200. For advanced upper-level undergraduates with a background in anthropology, and graduate students. Current theoretical and methodological approaches to investigation of past societies; frameworks include culture history, processual, structuralist, neo-Marxist; methods and techniques used to investigate ancient environments, subsistence strategies, ideologies, and social, political and economic organizations. (Y)

### **5280 Field Work in Archaeology of the Americas. Cr. 5 (Max. 10)**

Prereq: consent of instructor; ANT 5270 recommended. Introduction to reconnaissance and excavation of sites; preparation and cataloging of specimens; analysis of data. Material Fee as indicated in the Schedule of Classes. (B)

### **5320 Language and Societies. (LIN 5320) Cr. 3**

Prereq: ANT 2100 or 5200 or consent of instructor. Contemporary linguistic anthropologists see language as a form of social action. How has this understanding of language in society evolved? Read classic works of linguistic anthropology and contemporary studies in this growing field. Engage in research in language in society. (W)

### **5370 Magic, Religion and Science. Cr. 3**

Prereq: ANT 2100 or 5200 or consent of instructor. The nature and variety of religious belief and practice; theoretical interpretations. (B)

### **5380 History of Anthropology. Cr. 3**

Prereq: ANT 2100 or 5200 or consent of instructor. 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. (Y)

### **5400 Anthropology of Health and Illness. Cr. 3**

Prereq: ANT 2100 or consent of instructor. Concepts and theory in medical anthropology from cultural and biological perspectives. Topics include: cross-cultural aspects of sex and gender in health and ill-

ness, life course, sexuality, birth and death, bio-cultural approaches to healing and treatment, international health and epidemiology. (B)

**5410 Anthropology of Age. Cr. 3**

Prereq: ANT 2100 or consent of instructor. 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. (B)

**5420 Anthropology Practicum. (ANT 7420) Cr. 4**

Prereq: consent of instructor. 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. (Y)

**5430 (NUR 7515) End-of-Life Issues. (ANT 7430) (LIS 7635) (SOC 5020) (SOC 7020) 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. (Y)

**5510 Mesoamerican Civilization. (CBS 3510) Cr. 3**

Prereq: ANT 2100 or consent of instructor, or CBS 2010. 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. (B)

**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. (I)

**5700 Applied Anthropology. Cr. 3**

Prereq: ANT 2100 or 5200 or consent of instructor. The application of anthropological concepts and methods to contemporary issues of public concern in the United States and abroad. (B)

**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. (T)

**5996 Capstone Seminar in Anthropology. Cr. 3**

Prereq: upper division or graduate standing. 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. (Y)

**6230 Cultures of Sub-Saharan Africa. Cr. 3**

Prereq: ANT 2100 or consent of instructor. Sub-Saharan African cultures and societies; emphasis on both complex and simple political systems. (I)

**6290 Culture Area Studies. Cr. 3 (Max. 9)**

Prereq: ANT 2100 or 5200 or consent of instructor. 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. (I)

**6360 (HIS 7860) Oral History: A Methodology for Research. (LIS 7770) Cr. 3**

Oral history as a methodology for research. Interviewing procedures and techniques of indexing, transcribing, and analyzing historical content of oral history interviews. (I)

**6370 Symbolic Anthropology. Cr. 3**

Human ability to create symbols to communicate. Oral tradition and myth; utopia and uchronia and the imaginary construction of the world; art and the eschatological discourse. (I)

**6420 Economic Anthropology. Cr. 3**

Prereq: ANT 7010 or 7020 or 7005. 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. (B)

**6450 Culture, Health Policy and AIDS. Cr. 3**

Prereq: ANT 2100 or consent of instructor. Interface of cultural, scientific and political factors in the formation of health policy. Focus on analysis of the social construction of the HIV epidemic; and political, economic and medical aspects of HIV. (I)

**6510 The Inca and their Ancestors. Cr. 3**

Prereq: ANT 2100, 3200, or consent of instructor. Study of precolumbian 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. (B)

**6550 Practicum in Archaeology. Cr. 2-4 (Max. 8)**

Prereq: ANT 5270 or 5280, or consent of instructor. Emphasis on application of theory, practice, and research. Topics include: cultural resource management, ceramic analysis, settlement pattern studies, materialities, historical archaeology, archaeological data management. (Y)

**6570 Archaeological Laboratory Analysis. Cr. 3**

Prereq: ANT 5270 or 5280, or consent of instructor. Introduction to basic laboratory methods for the analysis of archaeological artifacts from both the prehistoric and historic period using materials housed in the collections of the Museum of Anthropology. (Y)

**6555 Cultural Resource Management and Public Archaeology. Cr. 3**

Prereq: ANT 5270 or ANT 5280 or consent of instructor. 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. (B)

**6650 Studies in Physical Anthropology. Cr. 2-4 (Max. 12)**

Prereq: ANT 2110 or consent of instructor. Selected topics in physical anthropology. Topics to be announced in Schedule of Classes. (I)

**6680 Studies in Cultural Anthropology. Cr. 2-4 (Max. 12)**

Prereq: ANT 2100 or 7005 or consent of instructor. Selected topics in cultural anthropology. Topics to be announced in Schedule of Classes. (I)

**6700 Topics in Medical Anthropology. Cr. 3**

Prereq: ANT 2100 or consent of instructor. New and emerging topics in medical anthropology or topics presented by visiting faculty in areas of theory, practice, and methodology. (B)

**6710 Medical Anthropology: Alcohol/Drug Use and Abuse. Cr. 3**

Prereq: ANT 2100 or consent of instructor. Biological and cultural aspects of alcohol and drug use and abuse considered in the context of medical anthropology and its theory, practice and research. (I)

**6990 Grant Proposal Writing for the Social Sciences. Cr. 3**

Prereq: advanced graduate standing or consent of instructor. Grant and proposal writing organized around elements of writing and research design; includes defining the research question, problem orientation, research objectives, funding sources, target audience, and project evaluation. (B)

**6992 Field Practicum in Business/Organizational Anthropology. Cr. 2-8**

Prereq: consent of instructor. Students gain firsthand experience in conceptualizing, conducting, and/or implementing applied research in business and other organizations. (I)

**7005 Thinking and Writing Anthropology. Cr. 3**

Prereq: ANT 2100 or consent of instructor. Critical reading of classical and contemporary ethnographies (anthropological descriptions and interpretations of societies and cultures, based on fieldwork). Analysis of theoretical approaches to the study of culture, social relations, and social organizations; ethnographies in historical and comparative perspectives; nature of ethnographic representation and knowledge. (F)

**7010 Anthropological Theory I. Cr. 3**

Required for first year graduate students. Examination of some major debates in anthropology in historical and contemporary perspective; continuities and breakthroughs. (Y)

**7020 Anthropological Theory II. Cr. 3**

Prereq: ANT 7010. Required for Ph.D. students. Continuation of ANT 7010. (Y)

**7070 (NUR 8070) Qualitative Data Collection and Analysis. Cr. 3**

Prereq: NUR 8060 or equiv. For students who have already developed a research proposal and are in the process of conducting a qualitative study. Practical application of data collection, analysis and interpretation. (Y)

**7200 Qualitative Research I. Cr. 4**

Prereq: ANT 7010 or 7020 or consent of instructor. Qualitative methods techniques and research design. Students conduct independent field research and learn data collection methods. (B)

**7210 Qualitative Research II. Cr. 4**

Prereq: ANT 7200. 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. (B)

**7220 (SOC 7220) Seminar in Survey Research Methods. (P S 7620) Cr. 3**

Prereq: advanced undergraduate or graduate training in general research methods and statistics; open to upper level undergraduates with consent of instructor. 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. (F)

**7260 (U P 7260) Urban Poverty and Racial Segregation. (AFS 6600) (P S 7260) (SOC 7350) Cr. 3**

Prereq: graduate standing. 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 'underclass' debate. (B)

**7420 (ANT 5420) Anthropology Practicum. Cr. 4**

Prereq: consent of instructor. 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. (Y)

**7430 (NUR 7515) End-of-Life Issues. (ANT 5430) (LIS 7635) (SOC 5020) (SOC 7020) 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. (Y)

**7605 Seminar in Problems and Concepts in Medical Anthropology. Cr. 1-9 (Max. 9)**

Prereq: graduate standing or consent of instructor. Current developments, problems, research orientations. Topics to be announced in the Schedule of Classes. (I)

**7620 Seminar in Problems and Concepts in Archaeology. Cr. 3 (Max. 15)**

Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. (B)

**7625 Material Culture and the Social Meaning of Things. Cr. 3**

Prereq: graduate standing or consent of instructor. 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. (B)

**7630 Seminar in Problems and Concepts in Cultural Anthropology. Cr. 2-3 (Max. 9)**

Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. (Y)

**7650 Seminar in Physical Anthropology. Cr. 3**

Prereq: ANT 2110. Current developments, problems, research orientations. Topics to be announced in Schedule of Classes. (B)

**7665 Seminar in Linguistic Anthropology. (LIN 7665) Cr. 3**

Prereq: ANT/LIN 5320. Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in the Schedule of Classes. (I)

**7680 Medical Anthropology I. Cr. 3 (Max. 6)**

Prereq: graduate standing or consent of instructor. Required of students in medical anthropology concentration. 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. (B)

**7690 Medical Anthropology II. Cr. 3**

Prereq: graduate standing or consent of instructor. Required of students in medical anthropology concentration. Continuation of ANT 7680. (B)

**7700 Seminar in Business and Industrial Anthropology. Cr. 3-9**

Prereq: graduate standing. Applications of anthropology to domestic and international business and industrial practices. Topics include: technology, material culture, and consumption; industrial anthropology; organizational culture and reform; anthropology of capitalism; globalization. (B)

**7745 (NUR 7745) Immigration and Health. Cr. 3**

Interdisciplinary distance-learning course that focuses on worldwide migration across international borders, and its health-related effects on individuals, families and nations. (Y)

**7780 Conceptualizing the Dissertation. Cr. 3**

Basic concepts, practices, and skills needed to develop and present a grant proposal for funding. (W)

**7900 Synthesis. Cr. 3**

Prereq: ANT 7005 and ANT 7010; minimum 21 anthropology graduate credits completed. Integrative, holistic, and comparative examination of anthropology as the synthesis of diverse analytic perspectives and methodologies. (W)



**7987 Directed Study in Business/Organizational Anthropology. Cr. 1-9 (Max. 9)**

Prereq: written consent of advisor and graduate officer. Research problem which involves fieldwork or intensive and systematic reading of original technical literature. (T)

**7990 (ANA 7990) Directed Study in Physical Anthropology. Cr. 1-8 (Max. 8)**

Prereq: written consent of advisor and graduate officer. (T)

**7991 Directed Study in Linguistics. (LIN 7991) Cr. 1-9 (Max. 9)**

Prereq: written consent of advisor and graduate officer. Open only to graduate students. A research problem which requires field work or intensive and systematic reading of original technical literature. (T)

**7992 Directed Study in Archaeology. Cr. 1-9 (Max. 9)**

Prereq: written consent of advisor and graduate officer. Open only to graduate students. A research problem which requires field work or intensive and systematic reading of original technical literature. (T)

**7993 Directed Study in Cultural Anthropology. Cr. 1-9 (Max. 9)**

Prereq: written consent of advisor and graduate officer. Open only to graduate students. A research problem which requires field work or intensive and systematic reading of original technical literature. (T)

**7994 Directed Study in Medical Anthropology. Cr. 1-9 (Max. 9)**

Prereq: written consent of instructor and graduate officer. Open only to advanced graduate students. Research problem requiring intensive study of original documents, specialized literature, and/or field research with write-up. (T)

**7995 Directed Study. Cr. 1-9 (Max. 9)**

Prereq: written consent of advisor and graduate officer. (T)

**7998 Field Problem. Cr. 1-9 (Max. 9)**

Prereq: consent of advisor and written consent of graduate officer. Open only to graduate students. A research problem which requires field work or intensive and systematic reading of original technical literature. (T)

**7999 Master's Essay Direction. Cr. 3**

Prereq: written consent of advisor. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: ANT 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ANT 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

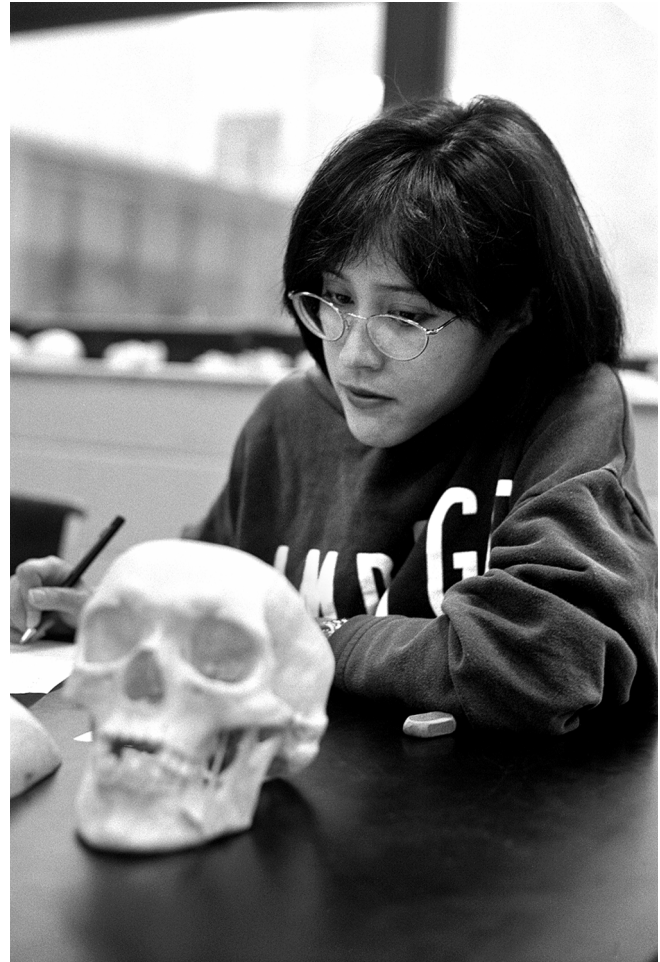
Prereq: ANT 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ANT 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: ANT 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ANT 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in ANT 9991- ANT 9994. Offered for S and U grades only.



# Biological Sciences

Office: 1360 Biological Sciences

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Chairperson: David L. Njus

Associate Chairperson: Edward Golenberg

Academic Staff: Roberta DeMeyer, Krystyn Purvis,

Linda VanThiel, Kimberly Walkowiak Hunter

Web: <http://www.clas.wayne.edu/biology/>

## Professors

Robert Arking, Walter Chavin (Emeritus), David R. Cook (Emeritus), D. Carl Freeman, Stanley K. Gangwere (Emeritus), Miriam Greenberg, Garrett Heberlein (Emeritus), R. Anton Hough (Emeritus), Hiroshi Mizukami (Emeritus), William S. Moore (Emeritus), David L. Njus, Claude M. Rogers (Emeritus), John D. Taylor (Emeritus), William L. Thompson (Emeritus), James D. Tucker

## Associate Professors

Kuo-Chun Chen, Philip R. Cunningham, Markus Friedrich, Edward Golenberg, Victoria Meller, Lori Pile, Aleksandar Popadic, Ann Sodja, Mark VanBerkum

## Assistant Professors

Arun Anantharam, Athar Ansari, Karen A. Beningo, William W. Branford, Chuanzhu Fan, Haidong Gu, Weilong, Hao, Choong-Min Kang, Daniel M. Kashian, Donna Kashian, Christopher Steiner, Xiang-Dong Zhang

## Assistant Professors, Research

Andrei Borisov, Karen Myhr

## Lecturers

Jyoti Nautiyal, Robert A. Thomas

## Graduate Degrees

*MASTER OF ARTS with a major in Biological Sciences*

*MASTER OF SCIENCE with a major in Biological Sciences*

*MASTER OF SCIENCE with a major in Molecular  
Biotechnology*

*DOCTOR OF PHILOSOPHY with a major in Biological Sciences  
and specializations in molecular biology and biotechnology;  
cell development and neurobiology; evolution and organismal  
biology*

## Master of Arts with a Major in Biological Sciences

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants are expected to have attained a level of scholarship in the baccalaureate program equal to a grade point average of 3.0 or better, including adequate preparation in biological sciences and supporting courses in chemistry, physics and mathematics. Normally, the entering student will be expected to have fulfilled the equivalent of the requirements for the Bachelor of Arts (or Bachelor of Science) degree at Wayne State University and to satisfy any deficiencies by course work before becoming a candidate for the advanced degree.

**DEGREE REQUIREMENTS:** The Department offers the Master of Arts degree under the *Plan C* option requiring thirty-two credits of coursework, all of which must be completed in accordance with the

academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279. Course requirements include the following:

**Plan C:** *Thirty-two credits in course work, with a minimum of seven graduate level courses completed in the Department of Biological Sciences.* Cognate credits may be taken in other College of Liberal Arts and Sciences departments, the College of Education, or the School of Medicine with approval from the Departmental Graduate Officer. All students must meet with the Departmental Graduate Officer, Dr. Edward Golenberg, once each semester for approval of course selections.

Students must elect courses according to Departmental requirements. Course requirements are available online at <http://www.clas.wayne.edu/unit-inner.asp?UnitID=4&WebPageID=529>.

**Candidacy:** Applicants become degree candidates after completing twelve credit hours of course work and filing a Plan of Work which must be approved and signed by the Departmental Graduate Officer.

## Master of Science with a Major in Biological Sciences

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants are expected to have attained a level of scholarship in the baccalaureate program equal to a grade point average of 3.0 or better, including adequate preparation in biological sciences and supporting courses in chemistry, physics and mathematics. Normally, the entering student will be expected to have fulfilled the equivalent of the requirements for the Bachelor of Science degree at Wayne State University and to satisfy any deficiencies by course work before becoming a candidate for the advanced degree. The general portion of the Graduate Record Examination (GRE) is required for admission to the Master of Science program. Admission is granted for the Fall Semester only.

**DEGREE REQUIREMENTS:** The Department offers the Master of Science degree under the *Plan A* option.

All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279. Requirements include the following:

**Plan A:** *Twenty-three credits in course work, plus a thesis (eight credits) based on completion of a research program.*

Under *Plan A*, the eight credits of thesis work must be in original laboratory or field research under the direction of the student's major advisor. At least twenty-four of the total credits must be from the Department of Biological Sciences. A final oral examination is required, based on the candidate's course work and research.

Students must complete one semester of two laboratory rotations before choosing an advisor. Students must elect courses according to Departmental requirements, including a core curriculum and electives determined by the student's graduate advisor with review and approval by the Graduate Committee Chairperson and the Department Graduate Officer, Dr. Edward Golenberg. Course requirements are available online at <http://www.clas.wayne.edu/unit-inner.asp?UnitID=4&WebPageID=511>.

**Candidacy:** Applicants become degree candidates after completing twelve credit hours of course work and filing a Plan of Work which must be approved and signed by the Departmental Graduate Officer.

## Master of Science with a Major in Molecular Biotechnology

The Molecular Biotechnology Program is a career-oriented program specifically designed to educate and train technically-oriented people

in both the theory and practice of modern biotechnology. The program's main emphasis is on the application of these skills through integration of classroom, laboratory, and research experiences.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants are expected to have attained a level of scholarship in the baccalaureate program equal to a grade point average of 3.0 or better, including adequate preparation in biological sciences and supporting courses in chemistry, physics and mathematics. The general portion of the Graduate Record Examination (GRE) is required. An introductory genetics course and a microbiology course passed with grades of 'B' or better are required, and completion of an introductory biochemistry course is strongly recommended. Deficiencies in course work must be completed before beginning the program. Students may enter in the Fall semester only.

**DEGREE REQUIREMENTS:** This program is offered as a specially approved Plan C master's program only, requiring forty-six credits. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

Course requirements are available online at <http://www.clas.wayne.edu/unit-inner.asp?UnitID=4&WebPageID=550>

**Candidacy:** Applicants become degree candidates after completing twelve credit hours of coursework and filing a Plan of Work which must be approved and signed by the Departmental Program Director.

Course work will be completed in accordance with the schedule set by the Program's Director, Dr. Markus Friedrich. Students must consult with Dr. Friedrich, each semester prior to registration.

## Doctor of Philosophy with a Major in Biological Sciences

**Admission:** In addition to the requirements of the Graduate School (see page 18), the applicant should have completed a bachelor's or master's degree with a major in a biological or other science. Applicants who have completed degrees in other disciplines will be considered on an individual basis.

Applicants must submit scores for the general portion of the Graduate Record Exam (GRE). The approval of the Department of Biological Sciences Graduate Admissions Committee is required for admission of applicants. Three letters of reference must be submitted, along with a statement of the Candidate's goals and career objectives. Admission is granted for the Fall Semester only.

**DEGREE REQUIREMENTS:** The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. The thirty credit dissertation registration requirement is fulfilled by registering for the courses BIO 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The remaining sixty credits must include the following:

- at least twelve credits in Biological Sciences course work from a core curriculum;
- no more than thirty-two credits in BIO 7996, Research Problems;
- two semesters of BIO 9996, Lab Rotation;
- two semesters of BIO 8995, Graduate Seminar in Biology;
- thirty credits in course work at the 7000-level or higher, exclusive of doctoral dissertation research. Six of those credits must be in courses exclusive of BIO 7996, BIO 8995, and BIO 8999.

Course requirements are available online at <http://www.clas.wayne.edu/unit-inner.asp?UnitID=4&WebPageID=507>.

All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

**Qualifying examinations** are administered in two parts. The first part is a written test which is taken by all students in November of their second year of study. A list of examination topics will be generated by the faculty and posted by the end of September. Students are required to notify the Graduate Chairperson in writing of their choice of four examination topics; topics are chosen in consultation with the advisor.

Students who pass the written qualifying examination take the oral examination within one year of the written test. Students are required to complete a written prospectus of their dissertation research, in the form of a grant proposal. The oral examination will include, but not be limited to, a defense of the prospectus. The examiners will be members of the student's graduate committee. The oral examination is graded on a pass/fail basis.

**Candidacy** status is reached after the Plan of Work has been approved, the written and oral portions of the qualifying examination have been passed, approximately fifty credits have been completed, and the student's dissertation committee has been named.

**Teaching/Research Requirement:** Every doctoral student is required to teach at least two semesters or have equivalent teaching experience.

Continuance in the doctoral program depends upon satisfactory progress as determined by the student's Dissertation Committee with the Departmental Chairperson as an *ex officio* member.

## Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Teaching and research assistantships, as well as fellowships, are available to qualified graduate students. Inquiries and applications should be directed to the Chairperson of the Graduate Committee, Department of Biological Sciences.

Summer research stipends are also awarded to selected students.

## GRADUATE COURSES (BIO)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

*Most laboratory courses have a non-refundable materials fee and are so indicated in the Schedule of Classes.*

### **5040 Biometry. Cr. 4 (LCT: 3;LAB: 3)**

Prereq: BIO 3070 or 4130; and MAT 1800, with grades of C-minus or above. Quantitative methods in biology. Statistical approach to data analysis and the design of experiments. Laboratory section permits actual analysis of selected statistical problems. Material Fee as indicated in the Schedule of Classes. (Y)

**5080 (PSY 5080) Cellular Basis of Animal Behavior. Cr. 3**

Prereq: BIO 2600 with a grade of C-minus or above. 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. (W)

**5100 Aquatic Ecology (BIO 7710). Cr. 4 (LCT: 3; LAB: 4)**

Prereq: BIO 1500 and one course in chemistry with grade of C-minus or above; or consent of instructor. Physical, chemical and biological processes occurring in lakes, streams, and wetlands. Material Fee announced in the Schedule of Classes. (B:F)

**5180 Field Investigations in Biological Sciences.  
Cr. 12 (Max. 20) (FLD: 6)**

Prereq: BIO 1500, BIO 1510; and either BIO 2200 or BIO 2600; each with grade of C-minus or above. Field studies of one to fifteen weeks, emphasizing biological principles and techniques demonstrated in the field. Material Fee as indicated in the Schedule of Classes. (S)

**5330 Principles and Applications of Biotechnology I. Cr. 3**

Prereq: BIO 2200, 3100, and 3070; or equiv.; with grades of C-minus or above. Review of origins of molecular biotechnology and its characteristic technologies; survey of applications of biotechnology to problems in industries. (F)

**5440 Terrestrial Ecology. (BIO 7440) Cr. 4**

Prereq: BIO 1500 and BIO 4130, each with grade of C-minus or above; or consent of instructor. Ecology of forests and grasslands. Field study and interpretation of ecological processes. Importance of species-site relationships and disturbance history. Material fee as listed in the Schedule of Classes. (B)

**5490 Population and Community Ecology. (BIO 7490)  
Cr. 3 (LCT:3)**

Prereq: BIO 1500 and BIO 4130 or consent of instructor. Population dynamics of animals and plants. Life history theory. Species interactions. Structure and dynamics of communities. (F)

**5540 Ecosystem and Landscape Ecology. (BIO 7540)  
Cr. 3 (LCT: 3)**

Prereq: BIO 1500 and BIO 4130 or consent of instructor. Ecosystem productivity. Carbon dynamics and nutrient cycling in ecosystems. Causes of ecological pattern on landscapes. Interrelationships of ecological pattern and process. (B)

**5610 Structural Embryology. Cr. 1 (LAB: 3)**

Prereq. or coreq: BIO 5620 with grade of C-minus or above. 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. Material Fee as indicated in the Schedule of Classes. (W)

**5620 Developmental Biology. Cr. 3 (LCT: 3)**

Prereq: BIO 3070 with grade of C-minus or above. 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. (F)

**5640 Cancer Biology. Cr. 3 (LCT: 3)**

Prereq: BIO 2600, BIO 3070, and BIO 3100, with grades of C-minus or above; or consent of instructor. Introduction to integrated analysis of cancer and cell biology, pathology, etiology and therapy. (F)

**5680 (PSL 5680) Basic Endocrinology. Cr. 3**

Prereq: BIO 3200 or BIO 4120 with grade of C-minus or above, or consent of instructor. 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. (F)

**5750 Biology of Aging. (BIO 7750) Cr. 3 (LCT: 3)**

Prereq: BIO 3070 with grade of C-minus or above, or consent of instructor. Aging and senescence viewed as fundamental biological processes common to most organisms. Empirically-based discussion of investigative methods and accepted facts regarding aging, coupled with critical discussion of behavioral and biological interventions believed to retard or reverse the aging process; critical analysis of theoretical interpretations of this data. (W)

**6000 Molecular Cell Biology I. Cr. 3 (LCT: 3)**

Prereq: BIO 2600 and BIO 3100 with grades of C-minus or above. 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. (F)

**6010 Molecular Cell Biology II. Cr. 3 (LCT: 3)**

Prereq: BIO 6000 with grade of C-minus or above. 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. (W)

**6020 Methods of Analyses. Cr. 4 (LCT: 2; LAB: 6)**

Prereq: BIO 5330 or BIO 6330 with grade of C-minus or above; or consent of instructor for undergrad. students. 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. Material Fee as indicated in the Schedule of Classes. (F)

**6030 Physiological Genetics of Modern Disease. (BIO 7030)  
Cr. 3 (LCT: 3)**

Prereq: BIO 2600 and BIO 3070 with grades of C-minus or above. Physical and chemical properties of the genetic material; the fundamental mechanisms concerned with its replication, function, mutation, recombination and regulation; molecular basis of evolution. A critical presentation of interdisciplinary subjects of biology, biochemistry and biophysics in relation to recent advances in genetic engineering. (I)

**6060 Molecular Evolution. Cr. 3 (LCT: 3)**

Prereq: BIO 3070; prereq. or coreq: BIO 4200, all with grades of C-minus or above. Patterns and processes of evolutionary change on the DNA sequence level. Emphasis on models of nucleotide substitutions, and genic evolution. Methods of phylogenetic inference. (I)

**6070 Human Genetics. Cr. 3 (LCT: 3)**

Prereq: BIO 3070 with grade of C-minus or above. 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. (I)

**6090 Population Genetics. Cr. 3 (LCT: 3)**

Prereq: BIO 3070 with grade of C-minus or above; BIO 4110 and Knowledge of Calculus recommended. Theoretical bases for micro-evolutionary change in natural populations of organisms; basic to study of evolutionary genetics and evolutionary ecology. (I)

**6120 Molecular Biology Laboratory I. Cr. 3 (LCT: 1;LAB: 6)**

Prereq: BIO 6010 with grade of C-minus or above, or written consent of instructor. Laboratory exercises illustrate methods and concepts of molecular biology and recombinant DNA analysis. Material Fee as indicated in the Schedule of Classes. (W)

**6160 Proteins and Proteomics. Cr. 3 (LCT: 3)**

Undergrad. prereq: BIO 3100 or CHM 5600 or CHM 6620 with grade of C-minus or above. Structure and dynamics of proteins at the

molecular level. Strategies used to biochemically purify, analyze, and characterize proteins. (B)

**6180 Membrane Biology. Cr. 3 (LCT: 3)**

Prereq: one year of biology and chemistry; BIO 2200 or 4120; BIO 6000 or 6160 recommended. 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. (I)

**6190 Advanced Special Topics. Cr. 1-6 (Max. 6)**

Prereq: consent of instructor or department. Formalized treatment of current state of knowledge in a significant area of biology. Topics to be announced in the Schedule of Classes. (I)

**6210 Ecology/Evolution. Cr. 4**

Open only to middle- or high school teachers. Prereq: teaching certificate; mathematics through algebra. Ecological principles such as energy and nutrient flow demographics and populations; population genetics; genetics and phylogeny. (I)

**6220 Biology of the Cell. Cr. 4**

Open only to middle- or high school teachers. Prereq: teaching certificate. Prokaryotic and eukaryotic cell structure and function; basic biology and recent advances. (I)

**6230 Genetics. Cr. 4**

Open only to middle- or high school teachers. Prereq: teaching certificate; mathematics through algebra. Introductory prokaryotic and eukaryotic gene structures and functions of mechanisms of inheritance. (I)

**6240 Introduction to Biotechnology for Teachers. Cr. 3**

Prereq: BIO 2600; teaching certificate. Open only to middle or high school teachers. Theories and technologies in the use of genomics; proteomics and bioinformatics techniques currently used for research and commercial applications. Web-based course. (I)

**6250 Biology Instruction for Teachers.  
Cr. 2 (Max. 10) (LCT: 2)**

Prereq: consent of instructor. Offered only for graduate credit; for teachers only. Discussion of basic biological principles in light of recent advances. (I)

**6260 Laboratory Biology for Teachers. Cr. 1 (Max. 5) (LAB: 1)**

Prereq: consent of instructor. Offered only for graduate credit; for teachers only. Laboratory component of BIO 6250; basic laboratory techniques in light of recent advances in the biological sciences. Material Fee as indicated in the Schedule of Classes. (I)

**6330 Principles and Applications of Biotechnology II. Cr. 3**

Prereq: BIO 5330 with grade of C-minus or above or written consent of instructor. 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. (W)

**6450 Aquatic Botany. Cr. 4 (LCT: 3;LAB: 3)**

Prereq: BIO 4130 with grade of C-minus or above. Systematics, physiology and ecology of algae and higher aquatic plants. Material Fee as indicated in the Schedule of Classes. (I)

**6620 Advanced Evolution. Cr. 3**

Prereq: BIO 4200 with grade of C-minus or above, or consent of instructor. 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. (I)

**6640 Advanced Ecology. Cr. 3 (LCT: 3)**

Prereq: BIO 4130 with grade of C-minus or above. Discussion and analysis of recent topics in ecological theory. (I)

**6690 Neurobiology I. Cr. 3 (LCT: 3)**

Prereq: BIO 3100; prereq. or coreq: BIO 4120, with grades of C-minus or above. 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. (W)

**6994 Technical Communication in Molecular Biotechnology.  
Cr. 1-6**

Prereq: admission to molecular biotechnology program or consent of instructor. Methods of written and oral communication in the biotechnology field. (W)

**7000 Recent Advances in Cellular and Developmental Biology. Cr. 3 (Max. 6) (LCT: 3)**

Prereq: written consent of instructor. 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. (I)

**7011 (MTX 7010) Principles of Toxicology. (PHC 7410) Cr. 3**

Prereq: CHM 2260 and BIO 1510 or equiv. recommended. 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. (F)

**7030 (BIO 6030) Physiological Genetics of Modern Disease.  
Cr. 3 (LCT: 3)**

Prereq: BIO 3070. Physical and chemical properties of the genetic material; the fundamental mechanisms concerned with its replication, function, mutation, recombination and regulation; molecular basis of evolution. A critical presentation of interdisciplinary subjects of biology, biochemistry and biophysics in relation to recent advances in genetic engineering. (I)

**7055 (ANA 7055) Biology of the Eye. (PYC 7050) Cr. 3**

Prereq: BIO 2600 and BIO 3100 with grade of C-minus or above. Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. (F)

**7060 Evolutionary and Developmental Biology. Cr. 3**

Prereq: BIO 5620 with grade of C-minus or above or consent of instructor. 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. (B)

**7090 Molecular Genetics of Development. Cr. 3 (LCT: 3)**

Prereq: BIO 5620. An examination of the current and classical research literature dealing with the role of gene action in development. (I)

**7100 Recent Advances in Microbiology and Molecular Genetics. Cr. 3**

Prereq: consent of instructor. Formalized and in-depth treatment of current state of knowledge in a significant area of microbiology and molecular genetics. (I)

**7110 Aquatic Ecology. Cr. 4**

Prereq: graduate standing; course assumes a basic knowledge of ecology and chemistry. Physical, chemical and biological processes occurring in lakes, streams, and wetlands. Material Fee as listed in Schedule of Classes. (B:F)

**7120 Molecular Genetics of Plant Development. Cr. 3**

Prereq: BIO 3070. Molecular basis of organogenesis in vascular plants. Current advances in plant development. Potential bases of morphological diversity and evolutionary change. (I)

**7440 (BIO 5440) Terrestrial Ecology. (BIO 7440) Cr. 0-4**

Open only to graduate students. Prereq: BIO 1500 and BIO 4130, each with grade of C-minus or above; or consent of instructor. Ecology of forests and grasslands. Field study and interpretation of ecological processes. Importance of species-site relationships and disturbance history. Material fee as listed in the Schedule of Classes. (B)

**7490 (BIO 5490) Population and Community Ecology. Cr. 3 (LCT:3)**

Prereq: BIO 1500 and BIO 4130 or consent of instructor. Population dynamics of animals and plants. Life history theory. Species interactions. Structure and dynamics of communities. (F)

**7500 Prokaryotic Gene Structure and Function. Cr. 4 (LCT: 4)**

Prereq: BIO 3070, 3100 or equiv. Detailed analysis of structure, expression and replication of 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. (B)

**7510 Eukaryotic Gene Structure and Function. Cr. 4 (LCT: 4)**

Prereq: BIO 6330 or 7780. 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. (B)

**7540 (BIO 5540) Ecosystem and Landscape Ecology. Cr. 3 (LCT: 3)**

Prereq: BIO 1500 and BIO 4130 or consent of instructor. Ecosystem productivity. Carbon dynamics and nutrient cycling in ecosystems. Causes of ecological pattern on landscapes. Interrelationships of ecological pattern and process. (B)

**7660 Neurobiology II. Cr. 3 (LCT: 3)**

Prereq: BIO 6690 or consent of instructor. Advanced topics; emphasis on neurodevelopment using model systems, and possible molecular mechanism; models of higher order functions: learning, memory behavior, cognition; human disease and recent genetic characterization. (B:F)

**7750 (BIO 5750) Biology of Aging. Cr. 3 (LCT: 3)**

Prereq: BIO 3070 or consent of instructor. Aging and senescence viewed as fundamental biological processes common to most organisms. Discussion of investigative methods and accepted facts regarding aging; critical analysis of theoretical interpretation of the data. (W)

**7780 Genetic Engineering Laboratory. Cr. 2**

Prereq: BIO 6120, 6330, or written consent of program director. Continuation of BIO 6120 laboratory experience; screening procedures and DNA sequencing methods. Material Fee as indicated in the Schedule of Classes. (I)

**7996 Research Problems. Cr. 1-8 (Max. 4 for M.A. and M.S. students; max. 32 for Ph.D. students who may take up to 8 credits per semester)**

Prereq: written consent of advisor or instructor. Original investigation. (T)

**8000 Special Topics. Cr. 1-6 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: written consent of instructor. Various frontier aspects of biology. Work may include lectures, laboratories or discussion. Topics to be announced in Schedule of Classes. (Y)

**8995 Graduate Seminar in Biology. Cr. 2 (Max. 2 for M.A.; Max 4 for M.S.) (SMR: 2)**

Prereq: graduate standing in biology. One semester required for research master's students; two semesters required for doctoral students. Presentations by graduate staff, advanced students, visiting lecturers. (Y)

**8996 Research in Molecular Biotechnology. Cr. 1-4 (Max. 8)**

Prereq: admission to biotechnology program or consent of instructor. Students spend two semesters doing research under the guidance of faculty associated with the Molecular Biotechnology Program and in other laboratories. (W,S)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: written consent of instructor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: BIO 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BIO 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: BIO 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BIO 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: BIO 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BIO 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in BIO 9991- BIO 9994. Offered for S and U grades only.

**9996 Lab Rotation. Cr. 1-3 (Max. 4)**

Offered for S and U grades only. Prereq: consent of doctoral advisor. Open only to doctoral students and Plan A master's students. Research training in faculty laboratories on a rotating basis, up to two labs per semester. (T)

# Chemistry

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Associate Chairperson: Charles H. Winter  
Academic Services Officers: Erin Bachert, Melissa Barton  
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## Professors

Ashok S. Bhagwat, Stephanie L. Brock, Jin K. Cha, Vladimir Chernyak, Christine S. Chow, David Crich, Darrell D. Ebbing (Emeritus), John F. Endicott (Emeritus), Zhongwu Guo, Carl R. Johnson (Emeritus), Tokujii Kimura (Emeritus), Richard L. Lintvedt (Emeritus), W. Martin McClain (Emeritus), John P. Oliver (Emeritus), Colin F. Poole, Morton Raban (Emeritus), Gene P. Reck (Emeritus), James H. Rigby, Mary T. Rodgers, Louis J. Romano, David B. Rorabacher (Emeritus), John SantaLucia, A. Paul Schaap (Emeritus), George H. Schenk (Emeritus), H. Bernhard Schlegel, Calvin L. Stevens (Emeritus), Arthur Suits, Charles H. Winter

## Associate Professors

Andrew L. Feig, Tamara Hendrickson, Mary Kay Pflum, David Rueda, Claudio N. Verani

## Assistant Professors

Matthew Allen, Peter R. Andreana, Andrés G. Cisneros, Stanislav Groysman, Parastoo Hashemi, Jeremy Kodanko, Wen Li, Tiffany Mathews, Sarah Trimpin

## Associate Professor, Research

Regina Zibuck

## Senior Lecturers

Maryfrances Barber, Barbara Munk

## Graduate Degrees

*MASTER OF ARTS with a major in Chemistry*

*MASTER OF SCIENCE with a major in Chemistry*

*DOCTOR OF PHILOSOPHY with a major in Chemistry and specializations in analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry*

## General Requirements for Graduate Study

Every student entering the graduate program in chemistry will be required to take a series of entrance (proficiency) examinations covering the major disciplines of chemistry. These examinations, which cover standard undergraduate-level material, will be administered on announced dates in August, January, and May (prior to the start of each term). The examination in each area must be taken every time it is offered until a satisfactory level of proficiency is demonstrated in three of the five major fields.

Demonstration of proficiency in each area may be achieved:

- by receiving a grade of 'pass' on the proficiency examination; or
- by completing a 7000-level course in the area with a grade of 'A' or 'B'.

Full-time graduate students must establish proficiency in three areas within twelve months of commencing graduate study. Part-time graduate students must meet this requirement by the time they have completed twelve hours of graduate credit.

A final oral examination is required of all graduate degree candidates.

**Scholarship:** All course work to be accredited to graduate degrees must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

## Master of Science with a Major in Chemistry

This is a professional degree for those planning to enter the chemical profession.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

Admission may be granted to applicants who have completed one year of college physics, mathematics through calculus, and the equivalent of undergraduate semester credits in chemistry as follows: general chemistry (eight credits), organic chemistry (eight credits), physical chemistry (six credits), quantitative analysis (four credits), and advanced chemistry (three credits). Applicants specializing in biochemistry may substitute advanced biology for advanced chemistry.

A minimum undergraduate grade point average of 2.75 in chemistry and cognate science is required. Students who do not meet the requirements may petition the departmental committee on graduate study for qualified admission. Admissions under this program may include special requirements specified on the basis of the student's previous experience and training.

**Candidacy** must be established by the time twelve credits have been earned. The applicant must file a copy of the Plan of Work with the Graduate Officer.

**DEGREE REQUIREMENTS:** This degree is offered only as a Plan A (thesis) master's program. (Chemistry courses below the 6000 level may not be applied toward this degree.)

- Total of twenty-two credits in course work which must include:
  - one credit in CHM 8850;
  - two or three credits in seminar (CHM 8800, 8810, 8820, 8830, or 8840);
  - one credit in CHM 6740;
  - at least twelve credits in chemistry courses open to graduate chemistry students (excluding research, seminar, CHM 6740, and CHM 8850) of which at least nine credits must be at the 7000 level;
  - six credits in chemistry and/or cognate courses;
- Eight credits in CHM 8999 involving independent thesis research under the direction of a faculty member in the Department.
- Submission of a satisfactory research thesis.

## Master of Arts with a Major in Chemistry

This degree is designed for those who wish advanced training in chemistry but intend to pursue careers in cognate fields, such as education or business.

**Admission Requirements:** see above, under the Master of Science degree.

**DEGREE REQUIREMENTS:** This degree is offered only as a Plan C master's program. (Chemistry courses below the 6000 level may not be applied toward this degree.) A total of thirty-two credits in course work which must include:

- a) one credit in CHM 8850;
- b) two or three credits in graduate seminar (CHM 8800, 8810, 8820, 8830, or 8840);
- c) one credit in CHM 6740;
- d) at least eighteen credits in chemistry courses open to graduate chemistry students (excluding research, seminar, CHM 6740 and CHM 8850) of which at least nine credits must be at the 7000 level. Courses must be elected in at least four of the following fields: analytical, biological, inorganic, organic, and physical chemistry.

## Doctor of Philosophy with a Major in Chemistry

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. All applications for admission to the doctoral program in chemistry and all adjustments in the program subsequent to admission must have the approval of the Graduate Officer of the Department of Chemistry.

A minimum undergraduate grade point average of 3.0 in chemistry and cognate science is required except by special permission of the Departmental Committee on Graduate Study. An applicant having a master's degree from another institution must show a grade point average of at least 3.0 ('B').

**Transfer from the Master's Program to the Ph.D. Program:** In order to transfer to the Ph.D. program, a student must accumulate a minimum of nine credits in chemistry course work numbered 6040-8690 with a grade point average of at least 3.25. An applicant having a lower average must earn the master's degree with a superior academic record before acceptance as a doctoral applicant.

**Candidacy:** In order to become a candidate for the Ph.D. degree, an applicant must successfully complete both a written and oral qualifying examination. The written examination consists of a series of short cumulative examinations administered seven times per year, of which a student must obtain five passes within thirteen attempts (three of which must be in the major division). The oral examination includes the major field and covers minor and cognate fields as well. Any additional requirements set by the Graduate School or the department must be completed. Copies of such requirements may be obtained from the Chairperson of the Departmental Committee on Graduate Study.

**DEGREE REQUIREMENTS:** Questions regarding requirements should be addressed to the Academic Services Officer. The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit, and the remainder of which must include the following:

1. A minimum of six courses (eighteen credits) in graduate course work of which at least nine credits must be in chemistry courses at the 7000 level or above; not less than six credits shall be from outside the major division of specialization. A student who does not pass any proficiency examinations upon entrance to the program will be required to pass an additional graduate course, for a total of seven courses (twenty-one credits). Additional courses beyond the required six or seven, may be specified by the student's Ph.D. advisor or committee to address deficiencies or to develop expertise in one or more specific research areas.

Effective, Fall 2011, minors are not required for graduation from the Ph.D. program. Many departments offer minors and graduate students may complete minors at their own discretion. A minor may be satisfied by two courses (at least six credits) taken outside the major division of specialization. The minor requirement may be satisfied in any one of the following ways:

- a) *Outside Minor* may be satisfied by a minimum of six credits in related fields outside chemistry (biology, chemical engineering, com-

puter science, mathematics, physics, etc.) with appropriate courses at the 5000 level and above.

- b) *Distributed Minor* may be satisfied by a minimum of six credits taken in chemistry, or three credits taken in chemistry and three credits taken in a related field. The chemistry credits must be at the 7000 level; the outside credits must be at the 5000 level or above.

- c) *Concentrated Chemistry Minor* may be satisfied by a minimum of six credits at the 7000 level in a single division outside the major division (including 7000-level courses taken to satisfy proficiency requirements).

2. *Credit by Examination:* Well-prepared students may receive up to nine credits by passing the final examinations in 6000- or 7000-level courses. These may be in either the major or minor fields.

3. At least four credits of graduate seminar (CHM 8800, 8810, 8820, 8830, or 8840).

4. At least one credit in CHM 8850.

5. One credit in CHM 6740.

6. Thirty credits in Ph.D. research involving independent research under the direction of a faculty member in the Department. The thirty credit dissertation registration requirement is fulfilled by registering for the courses CHM 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

7. Satisfactory completion of a 'Pre-Oral' examination based on the student's doctoral research is required prior to the final writing of the dissertation.

8. Submission of a satisfactory research dissertation.

## Assistantships and Fellowships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Graduate assistantships and fellowships are available for well-qualified students working toward the M.S. or Ph.D. degree. Requests for information should be addressed to the Graduate Admissions Officer, Department of Chemistry, 169 Chemistry Building; or e-mail: gradadmit@chem.wayne.edu.

## GRADUATE COURSES (CHM)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652

### 5020 Intermediate Inorganic Chemistry II. Cr. 3

Prereq: a grade of C or above in CHM 6070; or CHM 3020 and CHM 5400; or CHM 3020 and CHM 5420; or CHM 3020 and CHM 5440. 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. Material Fee as indicated in the Schedule of Classes. (F)

### 5160 Instrumental Analytical Chemistry. Cr. 3

Prereq: a grade of C or above in CHM 5400 or CHM 5420 or CHM 5440 or equiv.; PHY 2180 or equiv. Required of B.S. and ACS-



approved B.A. majors. 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. (F)

**5400 Biological Physical Chemistry. Cr. 4**

Prereq: a grade of C or above in CHM 2280 or equiv.; MAT 2020 or equiv.; prereq. or coreq: MAT 2030, PHY 2170, or equiv. Presentation of physical chemistry topics: thermodynamics, solution equilibria, chemical kinetics, quantum chemistry, spectroscopy, statistical mechanics, transport processes, and structure with biological applications. (W)

**5420 Physical Chemistry I. Cr. 3**

Prereq: a grade of C or above in CHM 2280, MAT 2020; prereq. or coreq: MAT 2030, PHY 2170, or equiv. Only two credits applicable toward degree after CHM 5400. Chemical thermodynamics, phase equilibrium, solutions, surface chemistry, electrochemistry. (F)

**5440 Physical Chemistry II. Cr. 4**

Prereq: a grade of C or above in CHM 2280, MAT 2020 or equiv.; prereq. or coreq: MAT 2030, PHY 2170 or equiv. Only three credits applicable to degree after CHM 5400. Kinetic theory, empirical and theoretical kinetics, quantum theory, atomic and molecular structure, molecular spectroscopy, statistical mechanics. (W)

**5510 Chemical Synthesis Laboratory. Cr. 2**

Prereq: a grade of C or above in CHM 2220 and CHM 2230; or CHM 1420. Advanced techniques for the synthesis, purification and characterization of organic compounds. Material Fee as indicated in the Schedule of Classes. (F)

**5550 (WI) Physical Chemistry Laboratory. Cr. 2**

Prereq. or coreq: CHM 5400 or CHM 5420 or CHM 5440 or equiv.; and PHY 2180 or equiv. Principles of measurement. Fundamental investigations of thermodynamics. Fundamental spectroscopic and kinetic measurements. Material Fee as indicated in the Schedule of Classes. (F,W)

**5570 Instrumental Analytical Chemistry Laboratory.  
Cr. 3 LCT:1;LAB:6**

Prereq. or coreq: a grade of C or above in CHM 5160 or equiv. 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. Material Fee as indicated in the Schedule of Classes. (W)

**5600 Survey of Biochemistry. Cr. 3**

Only two credits apply if elected after CHM 6620. Prereq: a grade of C or above in CHM 1420 or CHM 2220 or equiv. 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. (F,W)

**5740 Topics in Chemistry for High School Chemistry Teachers. Cr. 1-6 (Max. 20)**

Topics include: principles of chemistry; descriptive chemistry; inorganic, organic, analytical, physical chemistry; biochemistry. Topics to be announced in Schedule of Classes. (I)

**5780 Atoms, Molecules and Models. Cr. 3**

Open only to middle- or high school teachers. Prereq: college chemistry and biology. Energetics, atomic theory, molecular theory, computer modeling, structure of small and large molecules. (W,S)

**5998 Honors Thesis Research in Chemistry. Cr. 2-4 (Max. 8)**

Prereq: consent of chairperson. Open only to students in College Honors Program with junior standing in chemistry program; elect no later than first senior semester. 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. (T)

**5999 Senior Research in Chemistry. Cr. 2-4 (Max. 8)**

Prereq: consent of chairperson. Open only to students with junior standing in chemistry program; must be elected no later than first senior semester. Original investigation under the direction of a senior staff member. Submission of B.S. thesis or manuscript in publication format. (T)

**6040 Chemical Applications of Group Theory. (CHM 7040)  
Cr. 3**

Prereq: a grade of C or above in CHM 5020 and 5440 or equiv. Symmetry in chemical systems, development and use of character tables. Application of group theory to structure, bonding, spectroscopy and reactions. (I)

**6060 Solid State Materials Chemistry. (CHM 7060) Cr. 3**

Prereq: a grade of C or above in CHM 5020 or equiv. Solid state structure and bonding. Crystallography, defects and non-stoichiometry. Phase diagrams. Synthesis and properties of extended solids and nanomaterials. (I)

**6070 Advanced Bioinorganic Chemistry. (CHM 7070) Cr. 3**

Prereq: a grade of C or above in CHM 3000. Applications of inorganic chemistry principles to understanding biological systems including metalloenzymes. (I)

**6170 Advances in Bioanalytical Chemistry.  
(CHM 7170) Cr. 3**

Prereq: a grade of C or above in CHM 5160. How analytical methods are used to obtain information regarding biological systems. (I)

**6240 (CHM 6240) Organic Spectroscopy. (CHM 7240) Cr. 3**

Prereq: a grade of C or above in CHM 1420 or CHM 2220 or equiv. 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. (W)

**6270 Advanced Bioorganic Chemistry and Drug Design.  
(CHM 7270) Cr. 3**

Prereq: a grade of C or above in CHM 6620. Studies of biological problems using organic synthetic methods and applications to drug design. (I)

**6440 Computational Chemistry. (CHM 7440) Cr. 3**

Prereq: a grade of C or above in CHM 5440 or equiv. Aspects of computational chemistry pertinent to effective use of molecular modeling techniques. Molecular mechanics, semi-empirical and ab initio calculations, molecular dynamics. Material Fee as indicated in the Schedule of Classes. (I)

**6570 Computational Biochemistry and Bioinformatics.  
(CHM 7570) Cr. 3**

Prereq: a grade of C or above in CHM 5400. Application of computational and molecular modeling software tools to biochemical problems. (I)

**6610 (WI) Biological Chemistry Laboratory. Cr. 0 or 2**

Prereq: a grade of C or above in CHM 6620 or equiv. Open only to chemistry majors. Students are encouraged to have CHM 6635 as a prerequisite or corequisite to this course. Basic experiments in isolation, purification, and analysis of biomolecules. Techniques currently used in molecular biology and recombinant DNA procedures stressed. Material Fee as indicated in the Schedule of Classes. (Y)

**6620 Metabolism: Pathways and Regulation. (CHM 7620) Cr. 3**  
Only two credits apply if elected after CHM 5600. Prereq: a grade of C or above in CHM 2220 or CHM 1420 or CHM 2260 or equiv. 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. (F)

**6635 Tools of Molecular Biology. (CHM 7635) Cr. 3**  
Prereq: a grade of C or above in CHM 6620. Principles underlying genetic and biochemical methods; complements work in lab CHM 6610. (Y)

**6640 Molecular Biology. (CHM 7640) Cr. 3**  
Prereq: a grade of C or above in CHM 6620 or equiv. Nucleic acid structure and function. Mechanism and control of replication, transcription, and translation. Mutation, genetic recombination, and recombinant DNA. Membranes and organelles. (W)

**6660 Biomolecular Interactions. (CHM 7660) Cr. 3**  
Prereq: a grade of C or above in CHM 1420 or CHM 2220 or equiv. The role of molecular interactions in determining the structure and reactivity of complex biological molecules. Experimental approaches for evaluating the nature of these interactions. (I)

**6740 Laboratory Safety. Cr. 1-2**  
Not for chemistry major credit. Offered for S and U grades only. Required for all graduate degrees in chemistry. Discussion and demonstration of safe laboratory practice. Use, storage and disposal of ordinary and hazardous substances; personal protection devices; regulations and codes. (F,W)

**6750 Glassblowing. Cr. 1**  
Prereq: graduate standing or consent of instructor. Offered for S and U grades only. Introduction to the fundamentals of glassblowing as applied to the repair and fabrication of scientific equipment in the research laboratory. Material Fee as indicated in the Schedule of Classes. (I)

**6990 Directed Study. Cr. 1-4 (Max. 8)**  
Prereq: consent of department. (T)

**7010 Descriptive Inorganic Chemistry. Cr. 3**  
Prereq: CHM 5020 or equiv. Reactions and reactivity of inorganic compounds. Emphasizes mechanistic and synthetic approaches to transition metal, organometallic, main group chemistry. (F)

**7020 Physical-Inorganic Chemistry. Cr. 3**  
Prereq: CHM 6040 or 7040 or equiv. Structure and properties of inorganic compounds. Ligand field theory; electronic, vibrational, and magnetic resonance spectroscopy. (I)

**7040 (CHM 6040) Chemical Applications of Group Theory. Cr. 3**  
Open only to graduate students. Prereq: CHM 5020 and 5440 or equiv. Symmetry in chemical systems, development and use of character tables. Application of group theory to structure, bonding, spectroscopy and reactions. (F)

**7060 (CHM 6060) Solid State Materials Chemistry. Cr. 3**  
Prereq: CHM 5020 or equiv. Open only to graduate students. Solid state structure and bonding. Crystallography, defects and non-stoichiometry. Phase diagrams. Synthesis and properties of extended solids and nanomaterials. (W)

**7070 (CHM 6070) Advanced Bioinorganic Chemistry. Cr. 3**  
Open only to graduate students. Prereq: CHM 3000. Applications of inorganic chemistry principles to understanding biological systems including metalloenzymes. (I)

**7100 Theory of Analytical Chemistry. Cr. 3**  
Prereq: CHM 2280 and 2290 or equiv. Physicochemical principles applied to reaction equilibria and kinetics of analytical importance.

Approaches to problem solving in complex systems, principally in the solution phase. (F)

**7120 Electroanalytical Chemistry. Cr. 3**  
Prereq: consent of instructor. The theory and practice of modern voltammetric methods as applied to analytical, kinetic, and mechanistic studies. (B)

**7142 Data Analysis. Cr. 3**  
Prereq: CHM 2280 and 2290, or equiv. 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. (B:F)

**7160 Separation Science. Cr. 3**  
Theory and practice of gas-liquid, supercritical fluid, and thin-layer chromatography and capillary electromigration methods. (B)

**7170 (CHM 6170) Advances in Bioanalytical Chemistry. Cr. 3**  
Open only to graduate students. Prereq: CHM 5160. How analytical methods are used to obtain information regarding biological systems. (I)

**7180 Mass Spectrometry. Cr. 3**  
Prereq: CHM 5160 or equiv. Topics will include ICP, ICP-MS, AA, LIBX, MIPS, etc. Instrumentation concepts. Review of contemporary literature. (W)

**7200 Organic Structures and Mechanisms. Cr. 3**  
Prereq: one year of organic chemistry with laboratory. Structure and stereochemistry of organic molecules. Correlations between structure and chemical and physical properties. Reaction mechanisms. (F)

**7215 (PSL 7215) Nanobioscience. (CHE 7215) (PHY 7215) Cr. 3**  
Prereq: first year calculus, general chemistry. Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. (F)

**7220 Organic Reactions and Synthesis. Cr. 3**  
Prereq: CHM 7200. Alkylation, condensation, and Grignard reactions; synthesis of acid derivatives; cycloadditions and unimolecular rearrangements. Scope and limitations of important synthetic methods of organic chemistry. (W)

**7240 (CHM 6240) Organic Spectroscopy. Cr. 3**  
Open only to graduate students. Prereq: one year of organic chemistry with laboratory. 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. (W)

**7270 (CHM 6270) Advanced Bioorganic Chemistry and Drug Design. Cr. 3**  
Open only to graduate students. Prereq: CHM 6620. Studies of biological problems using organic synthetic methods and applications to drug design. (I)

**7360 Concepts in Advanced Chemistry. Cr. 3**  
Open only to middle- or high school teachers. Prereq: college chemistry and biology. Concepts such as environmental and green chemistry, stereochemistry and enzyme synthesis, polymer synthesis and uses, light and matter, instrumental analysis and separation science and material science. (F,S)

**7410 Statistical Thermodynamics. Cr. 3**  
Prereq: CHM 5440 or equiv. Statistical methods of determining thermodynamic properties of bulk materials from molecular properties. Real gases at high density, crystals, liquids; phase transitions, transport properties. (B)

**7430 Chemical Kinetics. Cr. 3**

Prereq: CHM 5440 or equiv. Empirical analysis of reaction rates, theories of chemical kinetics, gas phase reactions, molecular collisions and non-thermal reactions, and kinetics in liquids. (B)

**7440 (CHM 6440) Computational Chemistry. Cr. 3**

Open only to graduate students. Prereq: CHM 5440 or equiv. Aspects of computational chemistry pertinent to effective use of molecular modeling techniques. Molecular mechanics, semi-empirical and ab initio calculations, molecular dynamics. Material Fee as indicated in the Schedule of Classes. (W)

**7470 Quantum Chemistry. Cr. 3**

Prereq: CHM 5440 or equiv. Theorems of quantum mechanics, approximation methods, solutions to simple atomic and molecular systems, electronic structure of many-electron atoms and molecules, chemical bonding. (B)

**7480 Molecular Spectroscopy. Cr. 3**

Prereq: CHM 7470 or equiv. Basic theory of interaction of molecules with the electromagnetic field. Rotational, vibrational, and electronic spectra of molecules; elements of lasers, multiphoton spectroscopy. (B)

**7500 Modern Methods in Experimental Chemistry. Cr. 3**

Prereq: CHM 5440 or equiv. 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. (B)

**7570 (CHM 6570) Computational Biochemistry and Bioinformatics. Cr. 3**

Open only to graduate students. Prereq: CHM 5400. Application of computational and molecular modeling software tools to biochemical problems. (I)

**7600 Structure and Function of Biomolecules. Cr. 3**

Open only to graduate students. Prereq: CHM 1420 or 2220 or equiv. 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. (F)

**7620 (CHM 6620) Metabolism: Pathways and Regulation. Cr. 3**

Open only to graduate students. Prereq: CHM 7600 or equiv. 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. (F)

**7635 (CHM 6635) Tools of Molecular Biology. Cr. 3**

Open only to graduate students. Prereq: CHM 7620. Principles underlying genetic and biochemical methods; complements work in lab CHM 6610. (Y)

**7640 (CHM 6640) Molecular Biology. Cr. 3**

Open only to graduate students. Prereq: CHM 7600 or equiv. Nucleic acid structure and function. Mechanism and control of replication, transcription, and translation. Mutation, genetic recombination, recombinant DNA. Membranes and organelles. (W)

**7660 (CHM 6660) Biomolecular Interactions. Cr. 3**

Open only to graduate students. Prereq: CHM 1420 or CHM 2220 or equiv. The role of molecular interactions in determining the structure and reactivity of complex biological molecules. Experimental approaches for evaluating the nature of these interactions. (I)

**7740 Responsible Conduct of Research. Cr. 1**

Offered for S and U grades only. Prereq: graduate or post-doctoral student in chemistry department. 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. (F)

**7990 Directed Study. Cr. 1-4 (Max. 12)**

Prereq: consent of department. (I)

**8090 Advanced Topics in Inorganic Chemistry. Cr. 1-3 (Max. 12)**

Prereq: graduate standing. Topics offered in different semesters: inorganic synthesis and reactions; organometallic chemistry; bioinorganic chemistry; spectroscopy and stereochemistry of inorganic compounds; inorganic reaction mechanisms; photochemistry. (I)

**8190 Advanced Topics in Analytical Chemistry. Cr. 1-3 (Max. 12)**

Prereq: CHM 7100 or equiv. The following topics offered in different semesters: sample preparation, surface analysis, analytical mechanisms, advanced instrumentation, computer interfacing. (I)

**8290 Advanced Topics in Organic Chemistry. Cr. 1-3 (Max. 12)**

Prereq: CHM 7200 or equiv. 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. (I)

**8420 X-Ray Crystallography. Cr. 3**

Prereq: CHM 7010 or 7240 or equiv.; 6040 recommended. Theoretical and practical aspects of modern x-ray crystallography. Training and practice in determination of crystal structure. (I)

**8490 Advanced Topics in Physical Chemistry. Cr. 1-3 (Max. 12)**

Prereq: CHM 7410 or equiv. 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. (I)

**8690 Advanced Topics in Biochemistry. Cr. 1-3 (Max. 12)**

Prereq: CHM 7620 or equiv. 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. (I)

**8700 Research in Chemistry. Cr. 1-16 (Max. 40)**

Prereq: consent of advisor. Offered for S and U grades only. (T)

**8800 Seminar in Analytical Chemistry. Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. 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. (F,W)

**8810 Seminar in Organic Chemistry. Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. 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. (F,W)

**8820 Seminar in Inorganic Chemistry.**  
**Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. 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. (F,W)

**8830 Seminar in Physical Chemistry.**  
**Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. 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. (F,W)

**8840 Seminar in Biochemistry.**  
**Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. Open only to chemistry graduate students. 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. (F,W)

**8850 (CHM 4850) Frontiers in Chemistry.**  
**Cr. 1 (Max. 3, M.S.; max. 6, Ph.D.)**

Prereq: graduate standing. Offered for S and U grades only. Fields of fundamental chemistry now under investigation, presented by invited specialists actively engaged in research. (F,W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**  
Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**  
Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: CHM 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CHM 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: CHM 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CHM 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: CHM 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CHM 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in CHM 9991- CHM 9994. Offered for S and U grades only.

# Classical and Modern Languages, Literatures, and Cultures

Office: 485 Manoogian Hall; 313-577-3002

Interim Chairperson: Donald Spinelli

Academic Services Officers: Darrell Brockway, Terrie Pickering

Website: <http://www.clas.wayne.edu/languages>

## Professors

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## Associate Professors

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## Senior Lecturers

Edith Covensky, Mark Ferguson, Isamu Fukuchi, Connie Green, Alina Klin, Laura Kline

## Lecturers

Silvia Giorgini-Althoen, Saeed Khan, Li Liang, Rie Masuda, Leonidas Pittos, Luisa Quintero, Marilyn Rashid, Maha Saker

## Director of Foreign Language Technology Center

Sangeetha Gopalakrishnan

## Adjunct Faculty

Robert Holley, Hans-Peter Soeder, Dickran Toumajan

## Emeritus Professors

Ernest J. Ament, Achim Bonawitz, Frank J. Corliss, Jr., Andrea di Tommaso, Penrith Goff, Jesus Gutierrez, Louise M. Jefferson, Louis Kibler, Richard W. Minadeo, Sol Rossman, Aleya A. Rouchdy, Donald Spinelli, Ivan Starr, Guy Stern, Richard Vernier, A. Monica Wagner

## Graduate Degrees

*MASTER OF ARTS with a major in Classics and concentrations in Ancient Greek and Latin, Latin, or Ancient Studies*

*MASTER OF ARTS with a major in German*

*MASTER OF ARTS IN LANGUAGE LEARNING (see page 302)*

*MASTER OF ARTS with a major in Near Eastern Languages and concentrations in Arabic or Hebrew*

*MASTER OF ARTS with a Major in Romance Languages and concentrations in French, Italian, or Spanish*

## Master of Arts with a Major in Classics

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, the applicant must present an undergraduate major in Latin, Greek, or Classics, or receive the consent of the graduate advisor for graduate work. Evidence of having passed the Graduate Record Exam is required.

**Candidacy** must be established by the time twelve credits have been earned.

**DEGREE REQUIREMENTS:** The master's degree in Classics is offered under the following options:

**Plan A:** Twenty-four credits in course work, plus an eight-credit thesis.

**Plan B:** Twenty-eight credits in course work, plus a four-credit essay.

**Plan C:** Thirty-two credits in course work.

**Concentrations** available under *Plan A* or *Plan B* are: Latin, or ancient Greek and Latin. Concentrations available under *Plan C* are: Latin, Ancient Greek and Latin, or Ancient Studies. Requirements are:

**Latin:** Under *Plan A*, course work must include at least twenty-four credits in Latin exclusive of Latin 8999; at least eight of these twenty-four credits must be in courses numbered 7000 or higher. Latin 5000 does not satisfy these requirements; a final written and/or oral examination is required.

Under *Plan B*, course work must include at least twenty-eight credits in Latin exclusive of Latin 7999; at least eight of these twenty-eight credits must be in courses numbered 7000 or higher. A maximum of four credits in cognate or related fields may be applied under this Plan; Latin 5000 does not satisfy these requirements; a final written and/or oral examination is required.

Under *Plan C*, course work must include at least thirty-two credits in Latin exclusive of Latin 7999; at least eight of these thirty-two credits must be in courses numbered 7000 or higher. A maximum of four credits in cognate or related fields may be applied under this Plan; Latin 5000 does not satisfy these requirements; a final written and/or oral examination is required.

**Ancient Greek and Latin:** Under *Plans A* and *B*, a minimum of twelve credits in course work is required in *each* language (Ancient Greek and Latin) exclusive of Greek or Latin 8999 or 7999. A minimum of two courses (exclusive of thesis or essay courses) in one language must be in courses numbered 7000 or higher. (A maximum of four credits in cognate or related fields may be applied under *Plan B*.) Greek or Latin 5000 does not satisfy these requirements; a final written and/or oral examination is required.

Under *Plan C*, a minimum of sixteen credits in course work must be taken in one language, and a minimum of twelve credits in the other. A maximum of four credits in cognate or related fields may be applied under *Plan C*. Greek or Latin 5000 does not satisfy these requirements; a final written and/or oral examination is required.

**Ancient Studies:** This concentration is available only under *Plan C*. A minimum of twenty credits is required in either Ancient Greek or Latin, exclusive of Greek or Latin 5000, plus three credits of CLA 5300, three additional credits in Classics (CLA) courses at the 5000 level or above and at least six additional credits in courses selected from the following list. At least two courses elected in this plan must be in courses numbered 7000 or above.

- ANT 5270 -- Introduction to Archaeology: Cr. 3
- A H 5210 -- Hellenistic Art: Cr. 3
- A H 5250 -- Ancient Rome: Cr. 3
- A H 5260 -- Classical Greek Art: Cr. 3
- A H 5270 -- Roman Painting and Sculpture: Cr. 3

- A H 5300 -- The Christian Roman Empire: Cr. 3
- A H 5310 -- The Ancient City of Athens: Cr. 3
- A H 5320 -- Neoclassical Architecture in Britain: Cr. 3
- A H 5330 -- Constantinople in the Sixth Century: Cr. 3
- A H 5350 -- Byzantine Art and Architecture: Cr. 3
- A H 5400 -- Romans and Barbarians: Cr. 3

- CLA 5010 -- The Ancient Book: Cr. 1
- CLA 5050 -- Cleopatra: Cr. 3
- CLA 5100 -- Law and Ancient Society: Cr. 3
- CLA 5150 -- Athens and the Ancient Greek World: Cr. 3-4
- CLA 5190 -- Topics: Women in Antiquity: Cr. 3
- CLA 5200 -- Special Studies: Cr. 1-4
- CLA 5250 -- Greek and Roman Drama: Cr. 3-4
- CLA 5350 -- (CLA 3350) Plutarch: Lives of the Noble Greeks and Romans: Cr. 3
- CLA 5400 -- The Bronze Age in the Aegean: Cr. 3
- CLA 5600 -- (CLA 3600) Religious Experience: Ancient Greeks & Romans: Cr. 3
- CLA 5700 -- (CLA 3700) The Golden Age of Rome: Cr. 3-4
- CLA 5800 -- (CLA 3800) Survey of Greek Literature: Cr. 3-4
- CLA 5825 -- (CLA 3825) Survey of Latin Literature: Cr. 3-4
- CLA 6250 -- (CLA 3250) The Ancient City: Cr. 3-4
- CLA 6260 -- (CLA 3999) Further Studies in Mythology: Cr. 3

- HIS 5330 or 7330 -- History of Ancient Greece: Cr. 3
- HIS 5340 or 7340 -- History of Ancient Rome: Cr. 3
- HIS 5360 or 7360 -- The Early Middle Ages: 300-1000: Cr. 3

- PHI 5400 -- Presocratic Philosophy: Cr. 3
- PHI 5410 -- Plato: Cr. 4
- PHI 5420 -- Aristotle: Cr. 4

## Master of Arts with a Major in German

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

**DEGREE REQUIREMENTS:** The master's degree in German is offered by this department under the following options:

**Plan A:** Twenty-four credits in course work, plus an eight credit thesis and oral examination

**Plan B:** Twenty-nine credits in course work, plus a three credit essay and oral examination

**Plan C:** A minimum of thirty-two credits in course work depending on the Plan of Work. Course work is followed by three written examinations and an oral examination covering graduate studies.

Students planning a teaching career on the college level or intending to continue to the doctoral degree should elect either *Plan A* or *Plan B*. *Plan C*, Language and Culture, is intended primarily for those interested in teaching on the elementary and secondary school levels, or for those with a more general interest in German language and culture.

All students studying for the M.A. in German are required to complete German 6100 for a minimum of three credits.

Under all Plans, the Graduate School requires a minimum of six credits at the 7000 level or above.

**Scholarship:** All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

**Master's Option in Germany:** Students accepted into the German graduate program have the opportunity to earn graduate credit towards a Master of Arts in German while spending two semesters studying at the University of Munich. The opportunity is made possible by the cooperation of the Junior Year in Germany Program, which facilitates the student's matriculation, registration, and housing in Munich.

All students must first be admitted to the German graduate program before they will be considered eligible to participate in this option. Students already enrolled are eligible to participate upon successful completion of sixteen graduate credits within the department with a grade of 'B' or better, approval of the M.A. Plan of Work, and/or the approval of the graduate advisor. Students who wish to spend their first year of graduate study in Munich must complete their studies on the WSU campus in order to receive the M.A. degree. While in Germany the student will complete a minimum of eight credits per semester. WSU credit will be granted only for those classes approved in advance by the graduate advisor and for which the student has earned *benotete Scheine* (graded certificate).

For further details and requirements, see the graduate advisor.

## Master of Arts in Language Learning with Concentrations in Arabic, Classics, French, German, Italian, and Spanish

This program is targeted at in-service elementary, secondary, and college-level foreign language teachers interested in ongoing professional development. Students should be advised that it does not provide provisional state licensure (teacher certification), and does not include a practice teaching component.

**Admission** to this program is contingent upon: 1) admission to the Graduate School; for requirements, see page 18, and 2) approval of the Master of Arts in Language Learning (MALL) Advisory Committee (based on the applicant's academic record, target language proficiency, statement of purpose, and three letters of recommendation). Candidacy must be established by the time twelve credits have been earned.

**DEGREE REQUIREMENTS:** The Master of Arts in Language Learning degree is offered under the Plan B (essay) option only. It requires a minimum of thirty-three credits in course work, plus a three-credit essay.

Course work is divided into three core areas. The first core consists of a minimum of twelve credits in language, linguistics, literature or culture at the 5000, 6000, 7000, and 8000 levels. These courses must be taught in the target language. The second core is focused on methodology; all students complete LGL 5750, 5850/7850, 5860/7860 plus two courses from: LGL 5810/7810, 5820/7820, and 5830/7830. The Graduate School requires that a minimum of six credits be completed at the 7000-level or above; these credits must be earned in the language learning core. The third core consists of six credits in a cognate area, chosen in consultation with the graduate advisor. The three-credit essay will be written in conjunction with materials learned in the three cores under the direction of a MALL faculty member.

**Academic Scholarship:** Grades of 'B-minus' or lower in any course in the language and culture core or in the methodology core will represent unacceptable work. Students receiving such grades must repeat the course in order to have it count toward the degree. Students must maintain a 3.0 g.p.a. overall.

## Master of Arts with a Major in Near Eastern Languages

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, applicants must supply the program with a letter of intent, a 5-7 page sample of academic writing in English, and three confidential letters of recommendation. GRE scores are encouraged, but not required. For non-native speakers of English, TOEFL scores are encouraged but not required.

**Admission Requirements** consist of: Minimum undergraduate g.p.a. of 3.0 ('B'); and a minimum of two years of prior study in Arabic language, with a minimum g.p.a. in Arabic language courses of 3.5

('B+'). Prior coursework in Islamic and/or Near Eastern Studies is preferred. Candidates for the master's degree with concentration in either Hebrew or Arabic must have an adequate knowledge of at least one Semitic language and some knowledge of the culture of the Near East.

**DEGREE REQUIREMENTS:** The master's degree is offered by this department under the following options:

**Plan A:** Thirty-two credits including an eight credit thesis.

**Plan B:** Thirty-two credits including a three credit essay.

All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

**Candidacy** must be established by the time twelve credits have been earned.

### — with a Concentration in Hebrew

A student specializing in Hebrew is expected to demonstrate ability in the use of modern Hebraic sources. In addition to Hebrew language, literature, and culture courses, the student may be advised to elect six credits in cognate courses from the disciplines of history, philosophy, anthropology, linguistics, sociology, and political science. He/she is expected to write a thesis or essay in which he/she shows ability in using sources and in doing original research as well as demonstrates proficiency in a modern language and literature. A final oral and written examination will be required to test the ability of the student in the language and culture of his/her area of concentration. The student's program of study must have approval of the major advisor.

### — with a Concentration in Arabic

A student specializing in Arabic is expected to demonstrate ability in the use of Arabic sources. The student must successfully complete at least one advanced Arabic course in which work is performed with original Arabic sources (ARB 5010, 5020, or ARB 5140; in extraordinary circumstances a student may request acceptance of ARB 5990 as compliance with this requirement) with a grade of 'B' or higher while enrolled in the M.A. program. In addition to Arabic language (ARB) courses, the student may elect courses in Near Eastern studies (N E) and Hebrew (HEB), and may elect up to six credits in cognate courses in other related topics in the history, philosophy, anthropology, linguistics, sociology and politics of the Middle East. At least two courses must be completed at the 7000+ level. He/she is expected to write an essay or a thesis wherein he/she must show ability in using sources and doing original research as well as demonstrate proficiency in a modern language. A final oral and written examination will be required to test the ability of the student in the language and culture of his/her area of concentration. The applicant's program of study must have the approval of the major advisor.

## Master of Arts with a Major in Romance Languages

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, the Graduate Record Examination is strongly recommended, and three letters of recommendation are required of all applicants to the M.A. and Ph.D. programs.

### DEGREE REQUIREMENTS

The master's degree is offered by this department under the following options:

**Plan A:** Twenty-four credits in course work, plus an eight-credit thesis.

**Plan B:** Twenty-nine credits in course work, plus a three-credit essay.

**Plan C:** Thirty-two to thirty-three credits in course work depending on the Plan of Work.

Under all Plans, the Graduate School requires a minimum of six credits at the 7000 level or above.

Students envisaging a teaching career on the college level or intending to continue to the doctoral degree may elect either Plans A, B, or C — Literature. At present, Plan C — Literature is available only in French, and Plan C — Language and Culture, is available only in French and Spanish.

**Scholarship:** All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

## — with a Concentration in French

**Under Plans A and B:** Candidates are required to take French 6400 and 7300. No more than four credits in course work on the 5000 level may be counted toward the degree. With the consent of the candidate's advisor, up to six credits may be elected in related fields. At least five weeks prior to the time the degree is to be granted, candidates must pass a comprehensive oral examination based on the French area reading list for the Master of Arts degree.

**Under Plan C — Literature:** Candidates are required to take French 6400 and 7300. No more than four credits in course work on the 5000 level may be counted toward the degree and course work must include two graduate seminars. With the consent of the candidate's advisor, up to six credits may be elected in related fields. No essay is required for Plan C Literature. Candidates for the degree must, upon completion of their course work, take a comprehensive written and oral examination based on the French area reading list for the Master of Arts Degree.

**Under Plan C — Language and Culture:** Candidates are required to take French 5100, 5200, 6400, and 6450; however, any part of this requirement may be waived by the graduate advisor if he/she judges it has been properly satisfied in previous study. A minimum of twelve credits of French literature in courses on the 6000 level or higher is also required, one of which must be a seminar. With the consent of the candidate's advisor, up to six credits may be elected in related fields. On completion of their course work, candidates will be required to demonstrate a superior command of written and oral French. A final written and oral examination will be given to test their knowledge of French language and culture and those aspects of French literature in which they have had course work.

## — with a Concentration in Italian

**Under Plans A and B:** Candidates are required to take Italian 7300. At least five weeks prior to the time the degree is to be granted, candidates must pass a comprehensive oral examination based on course work and the Italian area reading list.

## — with a Concentration in Spanish

**Under Plans A and B:** Candidates are required to take course work in the areas of linguistics, Peninsular Spanish literature, and Spanish American literature. Candidates are required to write a comprehensive examination as specified in the *Graduate Handbook for Students and Faculty of the Department of Classical and Modern Languages, Literatures, and Cultures*, based on the Spanish area reading list for the Master of Arts degree. No oral examination is required.

**Under Plan C — Language and Culture:** Candidates are required to take a minimum of thirty-three credits in course work. They must elect Spanish 5550 and 5560 and a minimum of nine credits from Spanish 5200, 5300, 6400 and 7510. In addition, a minimum of twelve credits in Hispanic literature at the 6000 level or above is required. At least one of these courses must be in Spanish American

literature and one in Spanish peninsular literature. With consent of the graduate advisor, students may elect up to six graduate credits in related areas. Upon completion of their course work, candidates are required to write an examination covering Spanish language and linguistics, Hispanic culture and Hispanic literature, as specified in the *Graduate Handbook for Students and Faculty of the Department of Classical and Modern Languages, Literatures, and Cultures*. No oral examination is required.

## Doctor of Philosophy with a Major in Modern Languages

The Doctor of Philosophy with a major in Modern Languages allows students to combine a major and a minor that best meet their interests and career goals. Students must consult with the Ph. D. advisor to consolidate a coherent plan of work that emphasizes disciplinary knowledge, critical thinking, research skills, and interdisciplinary work. Several options are available:

**Major Concentration:** Doctoral students may concentrate their studies in French, German, or Spanish. Between forty-five to forty-eight graduate credits must be completed in one of these major areas.

**Minor Concentration:** Doctoral students broaden their course of study through the choice of a minor concentration, which requires nine to twelve credits. Minors are available in literary and cultural criticism, in a second language (French, German, Italian, or Spanish), or in another area which will complement work undertaken in the major. The choice of the minor will be determined in consultation with both the graduate adviser and the potential dissertation advisor, if determined, or a subject-matter specialist in the area of the minor.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The application for admission and transcripts of all previous college work should be filed in the Graduate School at least three months in advance of the time the applicant plans to register. A letter giving information on the applicant's educational background, experience, objectives, oral fluency in the language, or proposed major concentration and other data of interest to an evaluating committee should be sent by the applicant as soon as possible to the Chairperson of the Department of Classical and Modern Languages, Literatures, and Cultures.

**DEGREE REQUIREMENTS:** The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credits. The thirty credit dissertation registration requirement is fulfilled by registering for the courses CML 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

**Language Requirements:** The doctoral candidate must pass a Ph.D. reading examination in one language other than those of his/her major and minor fields. The choice of the language will be determined in consultation with the graduate advisor and subject to the approval of the Graduate Committee.

**Course Requirements:** A minimum of between forty-five to forty-eight credits on the graduate level in the field of major concentration, and nine to twelve credits in one minor field. The total program must include thirty credits (excluding dissertation direction) at the 7000 level or above. All students are required to take a 7710 course (Introduction to Literary Theory) and LGL 7850 (Foreign Language Instruction). FRE 7300 (Comparative Romance Linguistics) is required of all graduate students in Romance languages. German 6100 (minimum three credits) is required of all doctoral students with a major concentration in German. Course requirements for Master of Arts (Plans A, B and C - Literature) apply in the field of major concentration.

**Qualifying Examinations:** Within a reasonable time after the completion of all course work, students are required to pass extensive examinations, both written and oral, in the major and minor fields. Candidacy is achieved after passing the qualifying examinations and

the dissertation committee is named. Later, after the dissertation has been completed, a final oral presentation and defense of it is required.

All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

## Fellowships, Assistantships, and Scholarships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

University graduate fellowships for students working toward a Ph.D. degree provide a waiver of tuition fees, stipends, health insurance, and housing allowance. Support for summer study is also available. Graduate assistantships with teaching assignments are available to students working toward a Master of Arts degree as well as to doctoral candidates. They also provide a waiver of tuition fees and stipends.

Teaching assistantships and scholarships are available to qualified graduate students. Applications for teaching assistantships and scholarships should be submitted to the Department, in care of the graduate advisor. Applications for teaching assistantships are due by February 1.

All students are also encouraged to apply for Graduate-Professional Scholarships, which provide tuition awards to students not otherwise holding a graduate assistantship or fellowship. Apply to the Graduate School.

**The Martha S. Aust Graduate Scholarship in German** is awarded annually to a student or students planning a teaching career in German. Deadline announced annually; amount of award and number of awards vary. Apply to the Department.

**Concordia Singing Society Foundation Scholarships for Study in Germany:** Awards are made annually to American undergraduate or graduate students for the study of language, music, arts, or culture in Germany. Deadline announced annually; number and amount of awards vary.

**The Uwe K. Faulhaber Endowment in Applied German Studies** annually makes funds available to employ a graduate student to assist a faculty member with a special project. All graduate and AGRAD students are eligible for consideration. Apply to the Department.

Graduate students may also apply for the Munich Exchange Fellowship, offered by the Graduate School, for a year of study in Munich. Apply to the Graduate School.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### Courses Offered in English

*No knowledge of a foreign language is presumed or required for the following courses, which are conducted in English with all readings in English. Except for FRE 6991 and ITA 6500, these courses may NOT count toward a concentration in the foreign language from which the translations were derived.*

### Asian Studies in English (ASN)

**5825 (HIS 3825) Readings in the History of Modern China. (ASN 3825) (HIS 5825) Cr. 4**

From the rise of the last dynasty in the early seventeenth century to the present. (I)

**5855 (HIS 3855) Readings in History of Pre-Modern Japan. (ASN 3855) (HIS 5855) Cr. 4**

Japanese history from its mythical origins to early nineteenth century; political, economic, social, cultural developments. (B)

**5865 (HIS 3865) Readings in the History of Modern Japan. (ASN 3865) (HIS 5865) Cr. 4**

Japanese history from the early nineteenth century to the present; emphasis on political, economic, and social developments. (Y)

**5875 (HIS 3875) Readings in Women in Japanese History. (ASN 3875) (HIS 5875) Cr. 4**

From ancient times to the present. Reading-intensive course. (B)

**6840 (HIS 3840) Readings in China and the World. (HIS 6840) (ASN 3840) (CHI 3840) (CHI 6840) Cr. 4**

History of China as it has interacted with the world over the last two thousand years. Focus on global flow of trade goods, ideas and ideologies, religions and people. (Y)

### Classics in English Translation (CLA)

**5010 (CLA 3010) The Ancient Book. Cr. 1**

History of writing and publication in the Classical world of the Ancient Greeks and Romans, focusing on interrelated activities of authors, scribes, and readers. (I)

**5050 (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. (I)

**5100 (CLA 3100) Law and Ancient Society. Cr. 3**

Law systems of Ancient Greece and Rome. Law codes of Solon and of the Twelve Tables. (I)



**5150 (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. (B)

**5190 Topics on Women in Antiquity. Cr. 3 (Max. 6)**  
Topics on roles of women and views of gender and sexuality in ancient Greece and Rome, drawn from literature, art, drama, and law. (I)

**5200 Special Studies. Cr. 1-4 (Max. 8)**  
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. (I)

**5250 Greek and Roman Drama. Cr. 3-4**  
Critical interpretations of Greek and Roman tragedy and comedy, as represented, for example, in the works of Aeschylus, Sophocles, Euripides, Aristophanes, Menander, Plautus, Terence, and Seneca. Historical development of theatre design and dramatic staging. (I)

**5300 Methods and Materials in Classical Studies. Cr. 3-6**  
Prereq: CLA 1010; Classics or Art History major or consent of instructor. Introduction to various aspects of the material culture of Greek and Roman antiquity and to methods for approaching its study. (B)

**5350 (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. (I)

**5400 (CLA 3400) The Bronze Age in the Aegean. Cr. 3**  
Survey of culture, art, and archaeology of the prehistoric period in the Aegean; emphasis on Bronze Age Minoan and Mycenaean civilizations and their contribution to classical and western civilization. (I)

**5600 (CLA 3600) Religious Experience Among the Ancient Greeks and Romans. Cr. 3**  
CLA 5600 offered for graduate credit only. Polytheism among the Greeks and Romans. Topics include: sacrifice, prayer and supplication, festivals, burial, healing, priests and priesthood, temples and sacred sites, divination and extispicy, ruler cult, religion and politics. (I)

**5700 (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. (I)

**5800 (CLA 3800) Survey of Greek Literature. Cr. 3-4**  
Representative sampling of important Greek literary texts in English translation. (B)

**5825 (CLA 3825) Survey of Latin Literature. Cr. 3-4**  
Representative sampling of important Latin literary texts in English translation. (B)

**5990 Directed Study. Cr. 1-4 (Max. 8)**  
Prereq: consent of instructor. Directed independent research in depth on a topic or author not treated in the regular classics offerings, culminating in a course paper. (T)

**6250 (CLA 3250) The Ancient City. Cr. 3-4**  
Infrastructure, architecture, planning, and social and political forces that shaped the great cities of the ancient world, with particular attention to the growth of Rome. (I)

**6260 (CLA 3999) Further Studies in Mythology. Cr. 3 (Max. 6)**  
Prereq: CLA 2000 or equivalent introductory mythology course in any other department, or consent of instructor. An in-depth study of mythology with special reference to particular classical myths or theories of myth. (I)

**7010 (FRE 7010) Introduction to Literary Theory. (GER 7010) (ITA 7010) (LGL 7010) (N E 7010) (SLA 7010) (SPA 7010) 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. (B)

## French in English Translation (FRE)

**6991 Contemporary French Criticism and Literary Theory. Cr. 3**  
Theory and practice of contemporary French criticism; structuralist and post-structuralist writers: Barthes, Greimas, Derrida, and Lyotard. French majors required to do readings in French. (I)

## German in English Translation (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.

**7400 (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. (I)

## Italian in English Translation (ITA)

**5150 Italian Cinema. Cr. 3 (Max. 9)**  
Concentrated study of specific trends or the development of individual directors. Topics to be announced in Schedule of Classes. Material Fee as indicated in the Schedule of Classes. (B)

**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. (I)

## Slavic Studies in English (SLA)

**5400 (SLA 5400) Cultural Studies and Criticism. (SLA 7400) 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. (I)

**5840 (MKT 5840) Special Topics on Economic Transition in Emerging Republics. Cr. 3**  
Issues in Eastern Europe's transition from a centrally-controlled command economy to a free-market economy. Topics include: infrastructure reform, decentralization and privatization, the banking system, reforms and changes in social structures. (Y)

**7400 (SLA 5400) 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. (I)

**7010 (FRE 7010) Introduction to Literary Theory. (GER 7010) (ITA 7010) (LGL 7010) (N E 7010) (CLA 7010) (SPA 7010) 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. (B)

**Russian in English Translation (RUS)****5600 (RUS 3600) 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. (F)

**5650 (RUS 3650) 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. (B)

**ARABIC (ARB)****5010 Medieval Arabic Texts. Cr. 3**

Prereq: ARB 2010 or consent of instructor. Reading and translation of Arabic Medieval texts. Literature, language, religion and biography. (Y)

**5020 Media Arabic. Cr. 3**

Prereq: two years of Arabic study through ARB 2020. 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. (W)

**5100 Teaching of Arabic as a Foreign/Second Language (TAFL). (N E 5100) Cr. 3**

Theoretical and conceptual framework of second language learning. Proper training in pedagogy as related to learning Arabic as a foreign/second language. (Y)

**5130 Classical Arabic Literature in Translation. Cr. 3**

From pre-Islamic period (Jahiliya) to the downfall of the Umayyad dynasty in Andalusia (1492). (W)

**5140 Modern Arabic Literature in Arabic and English. Cr. 3**

Prereq: ARB 2020 or consent of instructor. 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. (Y)

**5210 Arabic Sociolinguistics. (LIN 5210) (N E 5210) Cr. 3**

No knowledge of Arabic required. Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. (F)

**5230 Structure of Arabic. (LIN 5230) (N E 5230) Cr. 3**

No knowledge of Arabic required. Survey of historical constitution and theoretical structure of Arabic. (Y)

**5990 Directed Study. Cr. 1-3 (Max. 9)**

Prereq: undergrad., consent of chairperson; grad., consent of chairperson or instructor. Readings; periodic consultations and reports. (T)

**6120 (N E 6120) Arab Women Through Literature. (ARB 6120) Cr. 3**

Prereq: N E 2040 or N E 3040 or consent of instructor. Arabic literature by women, expressing gender vision of society, history, and women's role in Arab world and North Africa. (Y)

**6220 (N E 3220) Arab Culture through Travel Literature: In the Footsteps of Ibn Batuta. (ARB 3220) (N E 6220) Cr. 3**

Open only to graduates. A global and interdisciplinary introduction to the Middle East, through study of texts written by Arab and Western travelers who visited the Middle East, from the Middle Ages to the present. (Y)

**CHINESE (CHI)****5210 Introduction to Chinese Linguistics. (LIN 5220) Cr. 3**

Writing, sound and grammar systems of Chinese; interaction between Chinese language and Chinese society. (F)

**5220 Languages of Asia. (JPN 5220) (LIN 5100) Cr. 3**

Introduction to major language families in Asia; grammar, sounds, language contacts. (W)

**5230 Grammar of Chinese. (LIN 5240) Cr. 3**

Chinese grammar from perspectives of negation, question formation, aspects and different parts of speech, and the like. (F)

**5300 Teaching Chinese as a Second Language. (LED 5300) Cr. 1-3**

Prereq: CHI 3100 or equiv. Introduction to basic teaching grammar and sound rules and general teaching methodology. (W)

**6840 (HIS 3840) Readings in China and the World. (HIS 6840) (ASN 3840) (ASN 6840) (CHI 3840) Cr. 4**

History of China as it has interacted with the world over the last two thousand years. Focus on global flow of trade goods, ideas and ideologies, religions and people. (Y)

**FRENCH (FRE)****5000 Minor Language Practicum. Cr. 3 (Max. 9)**

Prereq: consent of graduate advisor. Offered for S and U grades only. No degree credit toward Ph.D. Controlled application of active language skills for students electing a Ph.D. minor in French. (T)

**5100 (WI) Advanced Composition. Cr. 3**

Prereq: any two of FRE 2100, 2110, 3200 or consent of instructor. Spoken French in the context of French civilization. Readings and writing skills based on contemporary French texts, translations. (W)

**5200 French Phonetics and Pronunciation. Cr. 3**

Prereq: any two of FRE 2100, 2110, 3200 or consent of instructor. A systematic study of French sounds, phonetic transcriptions; practice in the language laboratory; intensive drills in accurate pronunciation and intonation. (F)

**5305 Advanced Grammar and Stylistics. Cr. 3**

Prereq: any two of FRE 2100, 2110, 3200, or consent of instructor. Advanced French grammar. Translation exercises from English to French; study of appropriate grammar rules. (F)

**5500 History of the French Language. (FRE 7500) Cr. 3**

Prereq: FRE 5200. External and internal history of the French language, including an overview of Late Latin and a detailed examination of the phonological, morphological, syntactic and lexical changes from Latin to French, with linguistic analysis of texts. (B)

**5990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: consent of advisor. (T)

**6400 Introduction to French Linguistics. Cr. 3**

Prereq: FRE 5200 or written consent of instructor. Study of various linguistic systems at work in the French language: phonology, morphology, syntax, semantics. (B)

**6450 French Civilization. Cr. 3**

Prereq: any two of FRE 3200, 4610, 4620, or consent of instructor. Introduction to French history and society from origins of France to the Fifth Republic; interrelation of socio-political developments to cultural movements in French art and thought. (B)

**6470 Contemporary French Society and Institutions. Cr. 3**

Prereq: any two of FRE 3200, 4610, 4620, or consent of instructor. French political and social institutions and practices since World War II. Comparative study of examples from American institutions and practices. (B)

**6510 French Sixteenth Century Literature. Cr. 3**

Prereq: FRE 4610 or 4620 or consent of instructor. Study of the principal genres represented by: Marot, Sceve, Labe, Du Bellay, Ronsard, D'Aubigne, Montaigne and others. Topics to be announced in Schedule of Classes. (B)

**6630 French Seventeenth Century Literature. Cr. 3**

Prereq: FRE 4610 or 4620 or consent of instructor. Historical background, religious and literary movements. Development of the Classical ideal in literature, salons, and academies. Representative authors of non-dramatic literature and the theatre (Corneille, Moliere and Racine). Content varies to cover a genre, literary movement, school or period. Topics to be announced in Schedule of Classes. (B)

**6650 French Eighteenth Century Literature. Cr. 3**

Prereq: FRE 4610 or 4620 or consent of instructor. The four major philosophes: Montesquieu, Diderot, Voltaire and Rousseau; precursors such as Cyrano, Fontenelle and Bayle. Developments in prose fiction and theatre; representative works of these genres. Content varies to cover a genre, literary movement, school or period. Topics to be announced in Schedule of Classes. (B)

**6770 Studies in French Literature. Cr. 3**

Prereq: FRE 4610 or 4620 or consent of instructor. 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. (B)

**6810 French Nineteenth Century Literature. Cr. 3**

Prereq: FRE 4610 or 4620 or consent of instructor. Romanticism, Realism, Naturalism, Parnassian poetry, and the theatre of the second half of the nineteenth century. Chateaubriand, Hugo, Flaubert, Zola, Leconte de Lisle, Becque, and others. Course content will vary to cover a genre, or literary movement, school or period. Topics will be announced in the Schedule of Classes. (B)

**6840 French Twentieth Century Literature. Cr. 3**

Prereq: FRE 4610 or 4620 or consent of instructor. Literary movements and representative authors from the turn of the century to the present. Course content will cover a genre or literary movement, school or period. Topics to be announced in Schedule of Classes. (B)

**6860 Francophone Literatures. Cr. 3 (Max. 6)**

Prereq: FRE 4610 or 4620 or consent of instructor. Studies in literature of French expression as represented in the distinct traditions of Africa and the West Indies, Canada and Switzerland. Topics to be announced in Schedule of Classes. (B)

**7010 Introduction to Literary Theory. (CLA 7010) (GER 7010) (ITA 7010) (LGL 7010) (N E 7010) (SLA 7010) (SPA 7010) 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. (B)

**7300 Comparative Romance Linguistics. (ITA 7300) (LIN 7300) (SPA 7300) Cr. 3**

Prereq: graduate major in French, Italian, or Spanish, or consent of Department; French students who have not completed FRE 6400 also require consent of instructor. 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. (B)

**7500 (FRE 5500) History of the French Language. Cr. 3**

Prereq: FRE 5200. External and internal history of the French language, including an overview of Late Latin and a detailed examination of the phonological, morphological, syntactic and lexical changes from Latin to French, with linguistic analysis of texts. (B)

**7770 Special Studies in French Literature. Cr. 3-4 (Max. 8)**

Prereq: minimum of eight credits in 6000-level French literature courses or consent of advisor. Works of an outstanding writer, a literary genre, or of literary trends. (I)

**8420 Seminar in French Linguistics. (LIN 7310) Cr. 3 (Max. 6)**

Prereq: FRE 6400 or 7300. Special problems in synchronic and diachronic aspects of the French language. (I)

**8710 Seminar in the French Renaissance. Cr. 3 (Max. 6)**

Prereq: minimum of eight credits in 6000-level French literature courses or consent of instructor. Specified aspect, movement, author, or group of authors. (B)

**8720 Seminar in Seventeenth Century French Literature. Cr. 3 (Max. 6)**

Prereq: minimum of eight credits in 6000-level French literature courses or consent of instructor. Specified aspect, movement, author, or group of authors. (B)

**8730 Seminar in the French Enlightenment. Cr. 3 (Max. 6)**

Prereq: minimum of eight credits in 6000-level French literature courses or consent of instructor. Specified aspect, movement, author, or group of authors. (B)

**8740 Seminar in Nineteenth Century French Literature. Cr. 3 (Max. 6)**

Prereq: minimum of eight credits in 6000-level French literature courses or consent of instructor. Specified aspect, movement, author, or group of authors. (B)

**8750 Seminar in Twentieth Century French Literature. Cr. 3 (Max. 6)**

Prereq: minimum of eight credits in 6000-level French literature courses or consent of instructor. Specified aspect, movement, author, or group of authors. (B)

## GERMAN (GER)

### 5000 German Practicum. Cr. 3 (Max. 9)

Prereq: consent of graduate advisor. Offered for S and U grades only. No Ph.D. degree credit. Controlled application of active language skills for students electing a Ph.D. minor in German, or German as a graduate reading language. (T)

### 5100 Advanced Composition and Conversation. Cr. 3

Prereq: GER 3100 or 3200 or equiv. Emphasizes improvement of student's oral and written command of German. Detailed study of modern German syntax. (B)

### 5390 Holocaust Studies. (GER 7390) 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. (I)

### 5670 Nineteenth Century German Studies. (GER 7670) Cr. 3-4 (Max. 8)

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of Nineteenth-century German literature and culture. (I)

### 5720 Eighteenth Century German Literature and Culture. (GER 7720) Cr. 3-4 (Max. 8)

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of eighteenth-century German literature and culture. (I)

### 5770 Modernism. (GER 7770) Cr. 3-4 (Max. 8)

Fin-de-siecle Germany and Austria, modernism and the metropolis, modernism and the new media (film, radio), art and politics of the Weimar Republic. (I)

### 5780 Texts and Contexts Since 1945. (GER 7780) Cr. 3-4 (Max. 8)

Recent and contemporary literary and cultural works in context of the political, social and intellectual developments since 1945. (I)

### 5790 Topics in German Studies. (GER 7790) Cr. 1-4 (Max. 12)

Special topics in German studies, focusing on culture, literature, language, or area studies. Topics to be announced in the Schedule of classes. (I)

### 5800 Literature and Cultures of Minorities. (GER 7800) Cr. 3-4

Focuses on literature by and about marginalized groups and on their cultures in postwar Germany. (I)

### 5990 Directed Study. Cr. 1-4 (Max. 8)

Undergrad. prereq: written consent of German chairperson; grad. prereq: written consent of German graduate advisor and chairperson. (T)

### 6100 Critical Approaches to German Studies. Cr. 3-4

Prereq: consent of major advisor required for undergraduates. Major critical approaches to German literature and cultural texts, and the questions and problems that drive contemporary German studies. (B)

### 7010 (FRE 7010) Introduction to Literary Theory. (CLA 7010) (ITA 7010) (LGL 7010) (N E 7010) (SLA 7010) (SPA 7010) 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. (B)

### 7390 (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. (I)

### 7670 (GER 5670) Nineteenth Century German Studies. Cr. 3-4 (Max. 8)

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of Nineteenth-century German literature and culture. (I)

### 7720 (GER 5720) Eighteenth Century German Literature and Culture. Cr. 3-4 (Max. 8)

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of eighteenth-century German literature and culture. (I)

### 7770 (GER 5770) Modernism. Cr. 3-4 (Max. 8)

Fin-de-siecle Germany and Austria, modernism and the metropolis, modernism and new media (film, radio), art and politics of the Weimar Republic. (I)

### 7780 (GER 5780) Texts and Contexts Since 1945. Cr. 3-4 (Max. 8)

Recent and contemporary literary and cultural works in context of the political, social and intellectual developments since 1945. (I)

### 7790 (GER 5790) Topics in German Studies. Cr. 1-4 (Max. 12)

Special topics in German studies, focusing on culture, literature, language, or area studies. Topics to be announced in the Schedule of Classes. (I)

### 7800 (GER 5800) Literatures and Cultures of Minorities. Cr. 3-4

Focuses on literature by and about marginalized groups and on their cultures in postwar Germany. (I)

### 8680 Seminar in German Studies. Cr. 4 (Max. 16)

Topics to be announced in Schedule of Classes. (I)

## GREEK, ANCIENT (GKA)

### 5000 Ancient Greek for Graduate Students. Cr. 1-4 (Max. 4)

Prereq: consent of graduate advisor. Basic grammar and vocabulary of Greek; leads to reading of continuous passages of poetry and prose in Greek. (T)

### 5100 Ancient Greek Prose Composition. Cr. 2-4

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor. Practice in the essentials of writing idiomatic and stylistic Greek prose. Instruction will be guided by readings and imitation of exemplary Greek prose authors. (I)

### 5200 Ancient Greek Lyric Poetry. Cr. 4

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor. Personal lyric poetry as a reflection of individual and society in the culture of the post-Homeric Greek world. (I)

### 5350 Readings in Ancient Greek History and Culture. Cr. 1-3 (Max. 6)

Prereq: one 3000-level Greek course, consent of instructor; coreq: enrollment in a CLA course numbered 5000 or above. Readings in Greek primary sources relevant to the associated CLA course (which is taught in English). (T)

### 5400 Ancient Greek Philosophy. Cr. 4

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor. 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. (I)

**5500 Ancient Greek Historians. Cr. 4**

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor. Prose style and historiographic techniques of ancient historians; selections from Herodotus, Thucydides, Xenophon, and Polybius. (I)

**5600 Ancient Greek Epic Poetry. Cr. 4**

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor. Study in ancient Greek of Homer, Hesiod, Apollonius Rhodius and others. Theory of oral vs. literary composition, the Homeric question, metrics. (I)

**5840 Ancient Greek: Attic Orators. Cr. 4**

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor; grad. prereq: consent of graduate advisor. Evolution of Greek prose style and historical context of the development of rhetoric in selected works of Attic orators. (I)

**5990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: undergrad., consent of instructor and Classics coordinator; grad., consent of instructor and Classics graduate advisor. (T)

**6250 Ancient Greek Drama. Cr. 4-8 (Max. 8)**

Prereq: GKA (or GRK) 2020 or equiv. or consent of instructor. 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. (I)

**7810 Studies in Ancient Greek Poetry. Cr. 4 (Max. 12)**

Prereq: undergrad. major in Classics or consent of graduate advisor. A major poet or genre. Topics to be announced in Schedule of Classes. (B)

**7820 Studies in Ancient Greek Prose. Cr. 4 (Max. 12)**

Prereq: undergrad. major in Classics or Greek or consent of instructor. A major prose author or genre. Topics to be announced in Schedule of Classes. (B)

## GREEK, MODERN (GKM)

**5000 Modern Greek for Graduate Students. Cr. 1-4 (Max. 4)**

Open only to graduate students. Prereq: consent of Modern Greek instructor. Basic grammar and vocabulary of modern Greek. Emphasis on conversation, reading and writing. (T)

**5720 (GKM 3720) Modern Greek Cities: An Historical-Ethnographic Study. Cr. 3**

Historical and ethnographic survey of the communities and culture of modern Greek urban centers, from the early modern period to the present. (Y)

**5590 (GKM 3590) Byzantine Civilization. Cr. 3**

Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. (Y)

**5990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: undergrad., consent of instructor and Classics coordinator; grad., consent of instructor and Classics graduate adviser. (T)

## HEBREW (HEB)

**5240 (HEB 5240) Survey of Modern Hebrew Literature in English. (N E 5240) Cr. 3**

From the nineteenth century to present; tradition vs. enlightenment; pioneerism, local color, and urban literature; Holocaust; the New Wave in modern Israeli literature. Course taught in English. (Y)

**5990 Directed Study. Cr. 3-6 (Max. 9)**

Prereq: undergrad., consent of chairperson; grad., consent of chairperson and graduate officer. Readings; consultations, reports. (T)

## ITALIAN (ITA)

**5000 Minor Language Practicum. Cr. 3 (Max. 9)**

Prereq: consent of graduate advisor. Offered for S and U grades only. No degree credit toward the Ph.D. Controlled application of active language skills for students electing a Ph.D. minor in Italian. (T)

**5100 Advanced Composition. Cr. 3**

Prereq: ITA 3200 or consent of instructor. Variety of forms and styles of writing (fiction, literary essay, journalistic writing, etc.), formal and informal usage, colloquial usage, regional variations. (W)

**5200 Italian Phonetics and Diction. Cr. 3**

Prereq: ITA 3100 or consent of instructor. Systematic study of Italian phonetics, with practical exercises. Diction, proper breathing, dialectal variations, and some linguistic theory. (Y)

**5570 Topics in Italian Studies. Cr. 3 (Max. 9)**

Prereq: ITA 4610, ITA 4620, or consent of instructor. In-depth study of author or group of authors, genre, historic period, or particular literary or cultural movement. Topics to be announced in the Schedule of Classes. (B)

**5990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: consent of advisor. (T)

**6400 History of the Italian Language. Cr. 3**

Prereq: ITA 3200 or consent of instructor. Italian language from beginnings to present time. Representative texts from various periods. (Y)

**6610 Dante: Divine Comedy. Cr. 3 (Max. 6)**

Prereq: ITA 3200 or consent of instructor. A close reading of Dante's *Commedia*, with attention to sources, background, and interpretation. (B)

**6680 Studies in Renaissance Literature and Culture. Cr. 3 (Max. 9)**

Prereq: ITA 4610 or consent of instructor. The major contributions of the Italian Renaissance, including lyric poetry from Petrarch to Marino; Boccaccio and the Novella Tradition; Humanism; the epic poetry of Boiardo, Ariosto and Tasso; Machiavelli and the political essayists. Topics to be announced in Schedule of Classes. (Y)

**6690 Studies in Baroque Literature and Culture. Cr. 3**

Prereq: ITA 4610 or consent of instructor. Poetry of Tasso, Marino, Marinisti and Anti-Marinisti. Prose writings of Galileo, Bruno, Campanella, and Tesauro. Topics to be announced in the Schedule of Classes. (B)

**6700 Studies in Eighteenth-Century Literature and Culture. Cr. 3 (Max. 9)**

Prereq: ITA 4620 or consent of instructor. Particular author, genre or literary movement in the historical and cultural context of eighteenth-century Italy. Topics to be announced in the Schedule of Classes. (B)

**6800 Studies in Nineteenth-Century Literature and Culture. Cr. 3 (Max. 9)**

Prereq: ITA 4620 or consent of instructor. Particular author, genre or literary movement in the historical and cultural context of nineteenth-century Italy. Topics to be announced in the Schedule of Classes. (B)

**6870 Studies in Modern Italian Fiction. Cr. 3 (Max. 9)**

Prereq: ITA 4620 or consent of instructor. Study of a genre, movement, theme, or period. Topic announced in the Schedule of Classes. (Y)

**6900 Studies in Twentieth-Century Literature and Culture. Cr. 3 (Max. 9)**

Prereq: ITA 4620 or consent of instructor. Particular author, genre or literary movement in the historical and cultural context of twentieth-century Italy. Topics to be announced in the Schedule of Classes. (B)

**7010 (FRE 7010) Introduction to Literary Theory. (CLA 7010) (GER 7010) (LGL 7010) (N E 7010) (SLA 7010) (SPA 7010) 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. (B)

**7300 (FRE 7300) Comparative Romance Linguistics. (LIN 7300) (SPA 7300) Cr. 3**

Prereq: graduate major in French, Italian, or Spanish or consent of department. Historical development and earliest texts in the Romance languages: Latin substrata, historical diffusion. Vulgar Latin, linguistic borrowings, classifications, and characteristics of the various Romance languages. (B)

## JAPANESE (JPN)

**5220 (CHI 5220) Languages of Asia. (LIN 5100) Cr. 3**

Introduction to major language families in Asia; grammar, sounds, language contacts. (W)

## LANGUAGE LEARNING (LGL)

**5750 (ENG 5750) Theories of Second Language Acquisition. (LIN 5750) 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. (Y)

**5810 Teaching Foreign Languages: Receptive Skills. (LED 5810) (LED 7810) (LGL 7810) Cr. 3**

Prereq: consent of instructor. 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. (B)

**5820 Teaching Foreign Languages: Productive Skills. (LED 5820) (LED 7820) (LGL 7820) Cr. 3**

Prereq: consent of instructor. 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. (B)

**5830 Technology in the Foreign Language Classroom. (LED 5830) (LED 7830) (LGL 7830) Cr. 3**

Prereq: consent of instructor. Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. (B)

**5850 Foreign Language Instruction. (LED 5850) (LED 7850) (LGL 7850) Cr. 3**

Prereq: consent of instructor. 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 testing. (B)

**5860 Foreign Language Testing. (LED 5860) (LED 7860) (LGL 7860) Cr. 3**

Prereq: consent of instructor. 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. (Y)

**7010 (FRE 7010) Introduction to Literary Theory. (CLA 7010) (GER 7010) (ITA 7010) (N E 7010) (SLA 7010) (SPA 7010) 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. (B)

**7810 (LGL 5810) Teaching Foreign Languages: Receptive Skills. (LED 5810) (LED 7810) Cr. 3**

Prereq: consent of instructor. 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. (B)

**7820 (LGL 5820) Teaching Foreign Languages: Productive Skills. (LED 5820) (LED 7820) Cr. 3**

Prereq: consent of instructor. 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. (B)

**7830 (LGL 5830) Technology in the Foreign Language Classroom. (LED 5830) (LED 7830) Cr. 3**

Prereq: consent of instructor. Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. (B)

**7850 (LGL 5850) Foreign Language Instruction. (LED 5850) (LED 7850) Cr. 3**

Prereq: consent of instructor. 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 testing. (B)

**7860 (LGL 5860) Foreign Language Testing. (LED 5860) (LED 7860) Cr. 3**

Prereq: consent of instructor. 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. (Y)

## LATIN (LAT)

**5000 Latin for Graduate Students. Cr. 1-4 (Max. 4)**

Prereq: consent of graduate advisor. Basic grammar and vocabulary of Latin; leads to reading of continuous passages of poetry and prose in Latin. (T)

**5300 Readings in Roman History and Culture. Cr. 1-3 (Max. 6)**  
Prereq: one 3000-level Latin course, consent of instructor; coreq: enrollment in a CLA course numbered 5000 or above. Readings in Latin primary sources that are relevant to the associated CLA course (which is taught in English). (T)

**5810 Roman Historians. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Selected readings from Tacitus, Livy, Caesar or Sallust illustrating the Roman rhetorical and ethical analysis of republican and imperial history. (I)

**5830 Roman Philosophy. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Readings in Latin of the Roman philosophers, including philosophical works of authors such as Lucretius, Cicero, Manilius, and Seneca. (I)

**5850 Epic. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Readings in Latin of the works of epic poets such as Ennius, Vergil, Lucan, Statius and others. (I)

**5860 Lyric and Elegy. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Readings in Latin of lyric and elegiac poetry by authors such as Catullus, Tibullus, Horace, and Propertius. (I)

**5990 Directed Study. Cr. 1-4 (Max. 8)**  
Prereq: undergrad., consent of instructor and Classics coordinator; grad., consent of instructor and Classics graduate advisor. (T)

**6500 Roman Epistolography. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Social, literary, and historical significance of the letters of such writers as Cicero, Pliny and Seneca. (I)

**6820 Roman Rhetoric. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Study of Roman rhetorical theory and practice. (I)

**6840 Roman Drama. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of graduate advisor. 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. (I)

**6890 Roman Satire. Cr. 4**  
Prereq: LAT 2020 or equiv. or consent of instructor. Readings in the works of satirists such as of Horace, Persius and Juvenal. (I)

**7810 Studies in Latin Poetry. Cr. 4 (Max. 12)**  
Prereq: major in Classics or Latin or consent of graduate advisor. A major poet or genre of poetry. Topics to be announced in Schedule of Classes. (B)

**7820 Studies in Latin Prose. Cr. 4 (Max. 12)**  
Prereq: major in Classics or consent of graduate advisor. A major prose author or prose genre. Topics to be announced in Schedule of Classes. (B)

## NEAR EASTERN STUDIES (N E)

**5000 Globalization, Social History and Gender in the Arabian Gulf. (HIS 5960) (HIS 7960) 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. (Y)

**5030 Great Cities of the Near East. Cr. 3**  
Illustrated study of the urban centers of the Near East: Mecca, Baghdad, Cairo, Jerusalem and others. (Y)

**5100 (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. (Y)

**5110 History and Development of Islamic Political Thought. (P S 5760) Cr. 3**  
Prereq: N E 2030, N E 3040; or consent of instructor or chairperson. Historical analysis of political Islam through study of the precepts and historical vicissitudes impacting the Islamic world from within and from external forces. (F,W)

**5210 (ARB 5210) Arabic Sociolinguistics. (LIN 5210) Cr. 3**  
No knowledge of Arabic required. Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. (F)

**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. (F)

**5230 (ARB 5230) Structure of Arabic. (LIN 5230) Cr. 3**  
No knowledge of Arabic required. Survey of historical constitution and theoretical structure of Arabic. (Y)

**5240 (HEB 5240) Survey of Modern Hebrew Literature in English. Cr. 3**  
From the nineteenth century to present; tradition vs. enlightenment; pioneerism, local color, and urban literature; Holocaust; the New Wave in modern Israeli literature. Course taught in English. (Y)

**5300 Qur'an: History and Interpretation. (N E 7300) 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 (Y)

**5700 Topics in Middle Eastern Studies. Cr. 1-4 (Max. 8)**  
Special topics in Middle Eastern politics, language, and literature. (Y)

**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. (B)

**5990 Directed Study. Cr. 1-6 (Max. 16)**  
Prereq: undergrad., consent of chairperson; grad., consent of chairperson and graduate advisor. (T)

**6005 (N E 3010) Survey of Jewish Civilization and History. (HIS 3010) (HIS 6005) Cr. 4**  
History of the Jewish people from their biblical origins to the contemporary period. Study of primary documents as a means of understanding how Jews have responded to the challenges of living in both the Diaspora and a Jewish State. (I)

**6030 Poetry and Prose of Yehuda Amichai in English Translation. Cr. 3**  
Reading and analysis of characteristics, themes and forms in the poetry and prose of Yehuda Amichai from 1956 to the present. Class is taught in English. (W)

**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. (W)

**6120 Arab Women Through Literature. (ARB 6120) Cr. 3**

Prereq: N E 2040 or N E 3040 or consent of instructor. Arabic literature by women, expressing gender vision of society, history, and women's role in Arab world and North Africa. (Y)

**6220 (N E 3220) Arab Culture through Travel Literature: In the Footsteps of Ibn Batuta. (ARB 3220) (ARB 6220) Cr. 3**

Open only to graduate students. A global and interdisciplinary introduction to the Middle East, through study of texts written by Arab and Western travelers who visited the Middle East, from the Middle Ages to the present. (Y)

**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. (I)

**7000 The State, Civil Society, and Democracy in the Modern Middle East. Cr. 3**

Prereq: N E 2040 or N E 3040 or consent of instructor. Evolution of Middle Eastern political institutions and power structures; civilian responses to them. Twentieth century Middle East democratization. (B)

**7010 (FRE 7010) Introduction to Literary Theory. (CLA 7010) (GER 7010) (ITA 7010) (LGL 7010) (SLA 7010) (SPA 7010) 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. (B)

**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. (I)

**7300 (N E 5300) Qur'an: History and Interpretation. (N E 7300) 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 (Y)

## POLISH (POL)

**5990 Directed Study. Cr. 1-3 (Max. 12)**

Prereq: POL 3020 or equiv., written consent of chairperson. (T)

## RUSSIAN (RUS)

**5990 Directed Study. Cr. 1-3 (Max. 12)**

Prereq: undergrad., written consent of chairperson; grad., written consent of chairperson and graduate officer. 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. (T)

## SPANISH (SPA)

**5000 Minor Language Practicum. Cr. 3 (Max. 9)**

Prereq: consent of graduate advisor. Offered for S and U grades only. No degree credit toward Ph.D. Controlled application of active language skills for students electing a Ph.D. minor in Spanish. (T)

**5100 (WI) Advanced Composition. Cr. 3**

Prereq: SPA 3100 or placement. 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. (Y)

**5200 Spanish Phonetics. Cr. 3**

Prereq: SPA 3100 or consent of instructor. A systematic study of Spanish sounds; conducted in Spanish. (B)

**5300 Advanced Grammar and Stylistics. Cr. 3**

Prereq: SPA 5100 or placement. Intensive study of grammar and syntax. Free composition and conversation. Conducted in Spanish. (B)

**5400 Technical and Literary Translation. Cr. 3**

Prereq: SPA 3100. English-Spanish and Spanish-English translations, literary and technical. Idioms in technical, business and legal contexts. Computerized translation technology. (B)

**5550 Spanish Culture and Its Tradition. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Spain's cultural history: painting, sculpture, architecture and music, through films, records, newspapers, and other texts. (B)

**5560 (SPA 5560) Spanish American Cultures and their Traditions. (CBS 5560) Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. 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. (B)

**5570 Topics in Hispanic Culture or Language. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Specific themes, genres, movements or periods. Topics to be announced in the Schedule of Classes. (Y)

**5990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: consent of advisor. (T)

**6400 Introduction to Hispanic Linguistics. Cr. 3**

Prereq: SPA 5200 or consent of instructor. Principles of linguistics and their application to Spanish. (B)

**6410 Spanish Medieval Literature: Origins to 1500. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Main currents and masterworks of Spanish literature from its origins to 1500. (Formerly SPA 6500.) (B)

**6420 Spanish Literature of the Renaissance. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Literary genres of the sixteenth century (poetry and narrative: picaresque, pastoral, morisco, and chivalric). (Formerly SPA 6510.) (B)

**6430 Spanish Literature of the Baroque Period. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Great poets of the Spanish seventeenth century: Lope de Vega, Gongora, Quevedo; as well as the prose of Quevedo and Gracian. Literary selections studied within the unique cultural climate of the Spanish Baroque. (Formerly SPA 6510.) (B)

**6440 Spanish Literature of the Eighteenth Century. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Literature of the Spanish Enlightenment; major works and literary trends and movements in the Spanish eighteenth century up to Romanticism. (Formerly SPA 6520.) (B)



**6450 Spanish Romanticism. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Origins and development of Romanticism in Spain: theatre, poetry, costumbrismo, and other narrative. (Formerly SPA 6520.) (B)

**6460 The Spanish Novel of the Nineteenth Century. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Representative works of the Realist and Naturalist movements. (Formerly SPA 6993.) (B)

**6470 The Spanish Novel of the Twentieth Century. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. 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.) (B)

**6490 Spanish Poetry of the Nineteenth and Twentieth Centuries. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Representative figures and trends in Modern and contemporary Spanish poetry. Post-Romanticism, Symbolism, the Silver Age (1900-1936), and contemporary poetry. (B)

**6560 Cervantes. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. A detailed study of Don Quijote. Other short works of Cervantes. (B)

**6570 The Comedia. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Analysis of plays by Lope de Vega, Tirso de Molina, Calderon, Maria de Zayas and other dramatists of Spain's Golden Age. (B)

**6590 Genres and Topics in Peninsular Spanish Literature. Cr. 3 (Max. 9)**

Prereq: SPA 4610, 4620, 4630, or 4640. Topics such as twentieth-century Spanish theatre, the Picaresque novel, and eighteenth-century Spanish theatre, to be announced in Schedule of Classes. (B)

**6600 Spanish American Colonial Literature. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Major figures from the sixteenth to the nineteenth centuries. Poetry, prose, and theatre; the literature of the conquest; conflicts and tension between the dominant and the conquered societies. (B)

**6620 The Spanish American Novel II. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. 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. (Formerly SPA 6860.) (B)

**6630 Spanish American Poetry. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Major figures of the twentieth century and their texts, from the Vanguard period to contemporary poetry. (B)

**6670 Latin American Novel to 1900. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Late colonial period to 1900. (B)

**6690 Genres and Topics in Spanish American Literature. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Topics in the literature of Spanish America, such as the short story or theatre, to be announced in Schedule of Classes. (B)

**6700 Spanish Literature of the Silver Age: 1900-1936. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Writers of the first three decades of the twentieth century; current narratological theories applied to intertextual maneuvers and philosophical concepts. (I)

**6710 Unamuno's Existential Fiction. Cr. 3**

Prereq: SPA 4610, 4620, 4630, or 4640. Important novels of Miguel de Unamuno; emphasis on characters and their agonization in a circumscribed area. (I)

**7010 (FRE 7010) Introduction to Literary Theory. (CLA 7010) (GER 7010) (ITA 7010) (LGL 7010) (N E 7010) (SLA 7010) 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. (B)

**7300 (FRE 7300) Comparative Romance Linguistics. (ITA 7300) (LIN 7300) Cr. 3**

Prereq: graduate major in French or Italian or Spanish or consent of department. Historical development and earliest texts in the Romance languages: Latin substrata, historical diffusion. Vulgar Latin, linguistic borrowings, classifications, and characteristics of the various Romance languages. (B)

**7510 History of the Spanish Language. Cr. 3**

Prereq: SPA 5200 or consent of graduate advisor. Origins, development and linguistic status of the Spanish language in Spain and Spanish America. (B)

**7770 Special Studies in Spanish Literature. Cr. 3 (Max. 12)**

Prereq: minimum of eight credits in 6000-level Spanish Literature courses. Study of the works of an outstanding writer, a literary genre, or literary trends. (F,W)

**8420 (SPA 8420) Seminar in Hispanic Linguistics. (LIN 7320) Cr. 3 (Max. 12)**

Seminar topics will vary according to the principal divisions of Spanish linguistics: phonology, morphology, lexicography, syntax, and dialectology. Topics to be announced in Schedule of Classes. (I)

**8510 Seminar in the Golden Age. Cr. 3 (Max. 6)**

Prereq: graduate major or consent of instructor. Topics to be announced in Schedule of Classes. (I)

**8530 Seminar in Spanish Literature of the Eighteenth and Nineteenth Centuries. Cr. 3 (Max. 6)**

Prereq: graduate major or consent of instructor. Topics to be announced in Schedule of Classes. (I)

**8550 Seminar in Spanish Literature of the Twentieth Century. Cr. 3**

Prereq: graduate major in Spanish or consent of instructor. Topics to be announced in Schedule of Classes. (I)

**8610 Seminar in Spanish American Narrative. Cr. 3**

Prereq: graduate major in Spanish or consent of instructor. Narrative genres in Spanish America including short story, essay, novel, short novel; development, history, period characterization. Topics to be announced in Schedule of Classes. (I)

## CLASSIC and MODERN LANGUAGE COURSES (CML)

*Thesis, Essay, Dissertation, Directed Study and Minor Courses*

### **7996 Research Project. Cr. 1-4 (Max. 12)**

Prereq: consent of Spanish advisor. (T)

### **7999 Master's Essay Direction. Cr. 1-4 (3-4 req.)**

Prereq: consent of advisor. (T)

### **8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

### **9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### **9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

### **9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: CML 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CML 9991. Offered for S and U grades only.

### **9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: CML 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CML 9992. Offered for S and U grades only.

### **9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: CML 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following CML 9993. Offered for S and U grades only.

### **9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in CML 9991- CML 9994. Offered for S and U grades only.

## Communication Sciences and Disorders

*Office:* 207 Rackham Memorial Building; 313-577-3339

*Chairperson:* Jean Andruski

*Graduate Officer:* Margaret Greenwald

*Undergraduate Advisors:* Tausha Beardsley, Aaron Hardy-Smith

*Coordinator of Clinical Programs:* Karen S. O'Leary

*Web:* <http://www.clas.wayne.edu/CSD>

### *Professors*

Anthony Cacace, John Panagos (Emeritus)

### *Associate Professors*

Jean Andruski, Margaret Greenwald, Li Hsieh, Thomas H. Simpson, Jinsheng Zhang

### *Assistant Professors*

Heather Balog, Derek Daniels, Shelly Jo Kraft

### *Instructors*

Tausha Beardsley, Maryellen Liening, Karen S. O'Leary, Kimberly Stewart

### *Lecturers*

Aaron Hardy-Smith

### *Part-Time Faculty*

Colleen Allen, Pat Backoff, Michael W. Church, Frances E. Eldis, Adrienne Fazel, Susan Fleming, Katherine Marchelletta, John O'Leary

### *Adjunct Faculty*

*Henry Ford Health System:* Kenneth R. Bouchard, Virginia Ramachandran, Brad Stach

*University of Michigan:* Bruce Edwards, Jaynee Handelsman, Paul Kileny, Teresa Zwolan

## Graduate Degrees

*MASTER OF ARTS with a major in Speech-Language Pathology*

*DOCTOR OF AUDIOLOGY*

*DOCTOR OF PHILOSOPHY with a major in Communication Sciences and Disorders*

## Graduate Degrees

Audiology is the study of the normal and impaired auditory system. Speech-language pathology focuses on impaired speech, language, fluency, and voice function of children and adults. The Doctor of Audiology (Au.D.) degree program offers students intensive and diverse academic and clinical experiences.

The course of study should be developed as early as possible with the student's major advisor, and candidacy must be established by filing an approved Plan of Work after twelve credits have been earned.

**Scholarship:** All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

**APPLICATION REQUIREMENTS** for all departmental graduate programs are: 1) a minimum undergraduate grade point average of 3.0,

2) completion of the Graduate Record Examination, 3) submission of three letters of recommendation, 4) submission of a written Statement of Intent, 5) submission of official transcripts. International applicants must provide, in addition, official results of the TOEFL, TWE, and SPEAK/TSE. Please access the department's website at <http://www.clas.wayne.edu/csd/> for additional information. Admission to all programs is contingent upon admission to the Graduate School; for requirements, see page 18.

**Assistantships:** Graduate student assistantships may be available in the Department. Students should consult the Graduate Officer of the Department for information.

**Accreditation:** The programs are accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association.

## Master of Arts with a Major in Speech-Language Pathology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Application requirements are stated above. Application must be made using the on-line application form available via <http://www.gradadmissions.wayne.edu/apply.php> AND the CSDCAS Centralized Application Service at <https://csdcas.org/>. Deadline for receipt of all application materials for fall admission is January 15. For additional information please access the department's website at <http://www.clas.wayne.edu/csd/>.

It is essential that prospective graduate students in this area confer with an advisor in the area of Speech-Language Pathology concerning academic, clinical and professional programs to meet certification requirements as set forth by the American Speech-Language-Hearing Association.

**DEGREE REQUIREMENTS:** The Master of Arts degree is offered by this Department under the following options:

**Plan A:** 54 - 60 credits, including an eight-credit thesis.

**Plan B:** 54 - 60 credits, including a three-credit essay.

**Plan C:** 54 - 60 credits in course work, plus written and/or oral comprehensive examinations in the major (total credits determined by major area of study).

## Doctor of Audiology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Application requirements are stated above. Application must be made using the on-line application form via <http://www.gradadmissions.wayne.edu/apply.php> AND the CSDCAS Centralized Application Service at <https://csdcas.org/>. Deadline for receipt of all application materials for fall admission is January 15. Please access the department's website at <http://www.clas.wayne.edu/CSD> for additional information.

Prerequisite courses for admission to the Doctor of Audiology (Au.D.) program include coursework in behavioral and social sciences, mathematics, natural science, human communication, language acquisition, phonetics or acoustics, and an introductory course in human communication disorders. Most applicants will have also completed introductory coursework in speech-language pathology and audiology.

The Au.D. program is designed to prepare audiology professionals to meet requirements for certification and licensure and is consistent with the standards of the Council on Academic Accreditation of the American Speech-Language-Hearing Association.

The program is specifically designed for individuals who have completed an undergraduate degree program in an accredited college or university and who have met the prerequisite requirements for admission to the Au.D. program. This is a four-year (eleven semester) full-time academic and clinical program. Most applicants who

have completed an undergraduate degree in communication disorders meet our course work requirements for admission. Applicants with undergraduate degrees in other fields may need to complete prerequisite course requirements prior to admission to the graduate program.

**DEGREE REQUIREMENTS:** The Doctor of Audiology degree requires successful completion of 121-125 graduate credits in the major plus written and/or oral comprehensive examinations.

## Doctor of Philosophy with a Major in Communication Sciences and Disorders

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Application requirements are described above. Details of the program and application process are outlined on the department's website at <http://www.clas.wayne.edu/csd/>.

**Candidacy:** In order to become a candidate for the Ph.D. degree, an applicant must successfully complete both a written and an oral qualifying examination.

**DEGREE REQUIREMENTS:** A minimum of ninety graduate credits beyond the baccalaureate is required for completion of the Ph.D. program. Most students exceed this requirement in the course of completing the degree. The student and his/her advisor work cooperatively to plan a program of study designed to establish the necessary skills and knowledge for successful completion of the degree and in preparation for careers in research, higher education, and advanced clinical practice. As part of the program of study, the student will complete thirty credits in Doctoral Dissertation Research and Direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses SLP 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## 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. (F,W)

### 5420 Introduction to Aural Rehabilitation. Cr. 3

Prereq: AUD 5400. Principles and practices of aural rehabilitation including hearing aids. Material Fee as indicated in the Schedule of Classes. (W,S)

### 6000 Electrophysiological Procedures. Cr. 4

Prereq: AUD 5400; graduate standing in audiology or speech-language pathology, or consent of instructor. Two distinct electrophysiological procedures, auditory evoked potentials and otoacoustic emissions, are presented. Both procedures consist of several subtests used to assess the auditory system from the middle ear to the cortex, in normal and disordered ears. (W)

**6010 Acoustic Immittance Measures. Cr. 2**

Prereq: admission to graduate program in audiology. Knowledge required to perform and interpret aural acoustic immittance measures. Test results obtained from normal ears and effects of pathological conditions on these clinical tests. (W)

**6020 Scientific and Clinical Measurements in Audiology. Cr. 2**

Open only to graduate students. Foundations of mathematics, including algebra, scientific notation, systems of measurement, and physical concepts as they apply to measurement techniques and instrumentation. (I)

**6030 Instrumentation in Audiology. Cr. 3**

Prereq: AUD 6020. Open only to graduate students. Operation, hook-up, scientific notation, systems of measurement, calibration and repair of instruments and software used in clinical audiology. (W)

**6040 Auditory and Vestibular Pathologies. Cr. 4**

Prereq: graduate standing in audiology. Disorders of the auditory and vestibular systems. Etiology, pathological characteristics, medical and non-medical therapies. (W)

**6300 Practicum in Audiology. Cr. 3**

Prereq: AUD 5400, 5420. Open only to graduate students. Supervised training and practice in pure tone threshold measurement and aural rehabilitation. Material Fee as indicated in the Schedule of Classes. (I)

**6310 Audiology Clinical Practicum Series. Cr. 3 (Max. 9)**

Prereq: AUD 6410, 6411, 6412. Open only to audiology graduate students. Progression of knowledge and skill level, from introductory basic clinical skills through advanced clinical protocols for difficult to manage patients. Material Fee as indicated in the Schedule of Classes. (T)

**6400 Anatomy and Physiology of the Auditory System. Cr. 3**

Prereq: graduate standing in audiology or speech-language pathology. Structure and function of the hearing and balance systems, including neurophysiologic aspects. Human auditory system; overview of vestibular system. (F)

**6410 Basic Audiologic Evaluation. Cr. 3**

Prereq: graduate standing in audiology or speech-language pathology recommended. Principles and application of pure-tone and speech audiometry, clinical masking, and impedance/immittance testing. (F)

**6411 Audiology Clinical Laboratory I. Cr. 2**

Prereq: AUD 6410. Open only to graduate students. Development of basic competencies in clinical interviewing and routine test administration. (W)

**6412 Audiology Clinical Laboratory II. Cr. 2**

Prereq: AUD 6040, 6411. Open only to graduate students. Continuation of basic skills development in patient testing. Special tests for site of lesion and pseudohypacusis, and associated laboratory exercises; laboratory experiences in cerumin removal and deep canal impressions. (S)

**6420 Special Audiologic Procedures. Cr. 2**

Prereq: AUD 6410. Open only to graduate students. Special applications of pure-tone and speech stimuli in the assessment of peripheral and central auditory problems. Use of physiological tests in the diagnostic process. (I)

**6430 Principles of Amplification I. Cr. 3**

Prereq: AUD 6410. Open only to graduate students. Electroacoustic and clinical aspects of acoustic amplifiers and developmental history of hearing aids. (W)

**6530 Principles of Amplification II. Cr. 3**

Prereq: AUD 6430. Open only to graduate students. Fundamentals of digital technology, compression, channeling and programming, and applications to various hearing impairment parameters. (F)

**7300 Clinical Internship. Cr. 3 (Max. 12)**

Prereq: AUD 5400 and AUD 6410. Open only to audiology graduate students. Supervised observation, training and practice in audiological procedures. Placements in local audiology settings as assigned by clinical rotation coordinator. (T)

**7320 Issues, Ethics and Scope of Practice in Audiology. Cr. 2 (Max. 9)**

Prereq: AUD 6000, 6430, 8430, 8480. 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. (B)

**7350 Contemporary Issues in Audiology. Cr. 1-4 (Max. 16)**

Prereq: admission to audiology program or consent of instructor. Integrated seminar; topics announced in the Schedule of Classes. (Y)

**7410 Psychoacoustics. Cr. 3**

Basic hearing science including psychophysical methods underpinning clinical testing procedures, signal detection theory, and speech perception. (S)

**7420 Hearing Loss Prevention Programs. Cr. 3**

Prereq: six graduate credits in audiology recommended. Assessment of damage risk criteria for noise-induced hearing loss. Implementation and management of hearing loss prevention programs in industry, schools, and community settings. (B)

**7430 Pediatric Audiology. Cr. 3**

Prereq: AUD 6410. Introduction to embryology, tests, test procedures, and counseling of parents with hearing-handicapped children. (S)

**7490 Educational Audiology. Cr. 3**

Prereq: AUD 6430, 7430. Preschool guidance and counseling, modern educational models and placement options, and the role of the audiologist in educational management. (B)

**7500 Aural Rehabilitation. Cr. 3**

Prereq: AUD 5420, 6430, 6530. Treatment procedures, measurement and electrophysiological instrumentation, ethical dilemmas. (S)

**7520 Counseling in Audiology. Cr. 1**

Open to audiology graduate students. Prereq: AUD 6410, AUD 6411. Basic counseling principles and techniques applied to patients and their family members during evaluation and treatment of auditory and balance disorders. (B)

**7540 Genetic Auditory Disorders. Cr. 3**

Prereq: graduate standing in audiology, speech-language pathology, or communication sciences and disorders. 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. (W)

**7550 Intra-operative Neurophysiologic Monitoring. Cr. 2**

Prereq: AUD 6000, graduate standing in audiology or communication sciences and disorders. Presentation of the techniques used to monitor neurological centers during head/neck surgery. Operating room observations required. (S)

**7990 Directed Study. Cr. 1-3 (Max. 6)**

Prereq: consent of advisor. 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. (Y)

**8300 Audiology Fellowship. Cr. 8 (Max. 24)**

Prereq: AUD 7300. Advanced supervised clinical practice in an off-campus setting over the final three semesters of professional study. Material Fee as given in the Schedule of Classes. (F,W)

**8350 Research Seminar. Cr. 3 (Max. 15)**

Prereq: SLP 7000 or equiv. Topics announced in the Schedule of Classes. Emphasis on clinical research methods. (Y)

**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. (W)

**8440 Medical Issues: Tinnitus, Central Auditory Processing and Auditory Neuropathy. Cr. 3**

Prereq: minimum 16 graduate credits in audiology. Role of the audiologist in the medical setting; advanced clinical skills and knowledge; health care issues and professional interaction in the medical setting. (F)

**8450 Advanced Auditory and Vestibular Electrodiagnosis and Cochlear Implants in Audiology. Cr. 4**

Prereq: graduate standing in audiology. Advanced evaluation of dizzy patients, cochlear implants, electrophysiology, medical lectures with surgical observations. (W)

**8460 Advanced Sensory Aids. Cr. 2**

Prereq: AUD 6530. New developments in assisted listening devices and cochlear implant protocols. (I)

**8480 Seminar in Audiology. Cr. 3 (Max. 12)**

(I)

## SPEECH-LANGUAGE PATHOLOGY (SLP)

**5080 Phonetics. (LIN 5080) Cr. 3**

Multisensory study of sounds in the English language, emphasizing acoustic, physiologic, kinesiologic approaches. Material Fee as indicated in the Schedule of Classes. (T)

**5090 Anatomy and Physiology of the Speech Mechanism. Cr. 3**

General science of normal speech; anatomy, physiology and mechanics of respiration, phonation, resonance, articulation. (F,S)

**5120 Speech Science. Cr. 3**

Coreq: SLP 5080, SLP 5090. Speech production, acoustics of sound, perception of the speech signal. (F,W)

**5300 Introduction to Speech-Language Pathology. Cr. 3**

Speech-language pathology in clinical and educational settings; classification of communication disorders and related management strategies. (F,S)

**5310 Clinical Methods in Communication Disorders. Cr. 3**

Prereq: SLP 5300, SLP 5320; coreq: SLP 5080, SLP 5090. Procedures and materials for clinical diagnosis of articulatory, language, rhythm, and voice deficits of organic and non-organic causation. (T)

**5320 Normal Language Acquisition and Usage. (LIN 5360) Cr. 3**

Language development in children and the associated areas of emotional and motor development; language stimulation techniques and programs. Material Fee as indicated in the Schedule of Classes. (T)

**5360 (WI) Clinical Practice in Speech-Language Pathology. Cr. 3 (Max. 9)**

Prereq: SLP 6460, 6480, and 5310, each with grade of B or better. Supervised experience in application of methods of diagnosis and

treatment of clinical cases. Material Fee as indicated in the Schedule of Classes. (T)

**6360 Advanced Clinical Practice in Speech-Language Pathology. Cr. 3 (Max. 12)**

Prereq: SLP 5360 or equiv. with grade of B or better. Open only to graduate students. Supervised experience in application of methods of diagnosis and treatment of clinical cases. Material Fee as indicated in the Schedule of Classes. (T)

**6460 Language and Phonological Disorders. Cr. 3**

Prereq: SLP 5300, SLP 5320; coreq: SLP 5080. Introduction to the clinical management of articulation and language disorders. (W)

**6480 Organic and Fluency Disorders. Cr. 3**

Prereq: SLP 5300, SLP 5320; coreq: SLP 5080. Introduction to the clinical management of cleft palate, voice, and stuttering disorders. (W)

**6640 Language Development and Disorders: Infants and Pre-school Children. Cr. 3**

Prereq: SLP 5300 and 5320; graduate standing or consent of instructor. 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. (F)

**7000 Research Methods in Communication Disorders. Cr. 1**

Prereq: graduate admission. Introduction to methods of research design and methods of analysis (quantitative and qualitative) in speech and hearing sciences and disorders. (F)

**7010 (SLP 7010) Acoustics of Speech. (LIN 7010) Cr. 3**

Prereq: SLP 5080, 5090. Acoustic consequences of phonetically-relevant articulatory movements. (F)

**7100 Research Methods: Evidenced- Based Practice. Cr. 1**

Prereq: SLP 7000; graduate standing in speech-language pathology, or communication sciences and disorders. Using evidence-based practice in communication disorders and on methods for conducting original research. (W)

**7320 Professional Issues in Speech-Language Pathology. Cr. 1**

Prereq: second-year graduate student in SLP. Practice issues, including ethics, scope of practice, multicultural concerns, professional conduct, reimbursement, and professional resources. (W)

**7360 Internship in Speech Pathology. Cr. 6 (Max. 12)**

Prereq: consent of instructor. Advanced professional experience in clinical speech language pathology. (T)

**7380 Clinical Process in Speech-Language Pathology. Cr. 3 (Max. 9)**

Prereq: graduate standing in speech-language pathology. Development of clinical skills and knowledge in diagnostic and treatment processes. Introduction to professional issues, counseling and ethical practices in speech-language pathology practice. Material Fee as indicated in the Schedule of Classes. (F)

**7520 Counseling in Speech-Language Pathology. Cr. 1**

Open only to speech-language pathology graduate students. Prereq: admission to M.A. program in speech-language pathology. Basic counseling principles and techniques applied to patients and their family members during evaluation and treatment of communication and swallowing disorders. (S)

**7590 Dysphagia. Cr. 3**

Prereq: SLP 5090. Assessment and management of neurologic and mechanical swallowing disorders in children and adults. (S)

**7600 Phonological Disorders. Cr. 3**

The etiology, diagnosis and advanced treatment regimens of phonological disorders in children and adults. (W)

**7610 Stuttering. Cr. 3**

The etiology, diagnosis and treatment of stuttering disorders in children and adults. (W)

**7620 Voice Disorders. Cr. 3**

The etiology, diagnosis and treatment of voice disorders in children and adults. (F)

**7621 Craniofacial Syndromes. Cr. 1**

Prereq: graduate standing in speech-language pathology. Theoretical and applied issues in resonance disorders that result from oral clefting and other craniofacial syndromes. (S)

**7630 Neuroscience of Communication Disorders. Cr. 3**

Neuroscience, neurophysiology, neuropsychology, neuroimaging, normal aging processes and neurodevelopment in speech-language pathology. (F)

**7640 Language Disorders in the School-Age Population. Cr. 3**

Prereq: SLP 6640. 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. (F)

**7660 Neuromuscular Speech Disorders and AAC. Cr. 3**

Theory, assessment and intervention in neurologic speech disorders in children and adults (dysarthria, acquired apraxia of speech). Discussion of specialized treatment approaches with emphasis on augmentative and alternative communication (AAC). (W)

**7680 Acquired Linguistic and Cognitive Disorders in Adults. Cr. 4**

Prereq: SLP 7660. Theory, assessment, and management/treatment of adult patients with aphasia, traumatic brain injury, right-hemisphere brain damage, and dementia. (Y)

**7700 Advanced Research Methods in Communication Disorders. Cr. 1**

Prereq: SLP 7000 or equiv. 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. (W)

**7990 Directed Study. Cr. 1-9 (Max. 9)**

Prereq: consent of chairperson, if replacing regular course work. Graduate study in areas not covered in the Scheduled curriculum, including library and field work. (Y)

**7991 Directed Study: Ph.D. Cr. 1-9 (Max. 9)**

Prereq: consent of chairperson and graduate officer. Open only to doctoral students. Directed research for major, and pilot work for dissertation. (Y)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: consent of advisor. (Y)

**8390 Seminar in Speech-Language Pathology. Cr. 3 (Max. 18)**

Prereq: consent of instructor. Topics to be announced in Schedule of Classes. No topic may be repeated for credit. (Y)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: SLP 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following SLP 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: SLP 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following SLP 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: SLP 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following SLP 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in SLP 9991- SLP 9994. Offered for S and U grades only.



# Criminal Justice

Office: 3291 Faculty/Administration Building; 313-577-2705

Chairperson: Eric G. Lambert

Graduate Director: Brad Smith

Administrative Assistant: Antonetta Johnson-Gardner

Academic Services Officer: Marianka Holloway

Website: <http://www.clas.wayne.edu/CRJ>

## Professors

Eric G. Lambert, Joe Rankin, Steven Stack, Marvin Zalman

## Associate Professors

Thomas Kelley, Brad Smith, Jennifer Wareham

## Assistant Professors

Irshad Altheimer, Charles Klahm, Yuning Wu

## Graduate Degree

### *MASTER OF SCIENCE with a Major in Criminal Justice*

The Master of Science degree in Criminal Justice is designed to prepare students for positions in criminal justice and related agencies as well as prepare students who wish to pursue a Ph.D. in Criminal Justice or related fields. Students are provided with a broad educational foundation in criminal justice grounded in law and the social sciences. Study begins with an analysis of crime and the entire justice system. Advanced study inquires into the political, organizational, social, and behavioral aspects of various components of the system of criminal justice. Research courses give students the tools with which to independently analyze issues of crime and justice as well as the requisite skills for career development. Courses are offered in the following core areas: contemporary criminal justice, causes of crime, research methodology and statistics, and a specialization of the student's choice.

Students in the Criminal Justice Graduate Program take core classes in Criminal Justice and are eligible to take elective courses in other Liberal Arts and Sciences departments and in departments in other colleges. This allows substantial flexibility in arranging a program of study that meets the student's goals.

## Master of Science with a Major in Criminal Justice

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Strong undergraduate social science preparation is recommended, and additional undergraduate course work may be specified in criminal justice or related areas where such preparation is inadequate.

Admission to the graduate program in Criminal Justice is based on: 1) evidence of a completed baccalaureate degree from an accredited college or university, 2) the quality of the applicant's undergraduate record, 3) two letters of recommendation, and 4) a personal statement. In determining admission for the individual applicant, the Graduate Committee evaluates the student's undergraduate record (with special emphasis on upper division courses: junior/senior year), the level of difficulty of course work, as well as grade point average (g.p.a.) in the student's major, the strength of the recommendations, and the quality of the personal statement. The minimum standard for admission as a regular Master's student is an undergraduate g.p.a. of 3.0 or better. Applicants with an undergraduate g.p.a. between 2.90 and 2.99 may be considered for admission, but are required to supply a writing sample (e.g., term paper) and a written statement justifying why they are capable of graduate level work and explaining why their g.p.a. fell below 3.0. Applicants are also encouraged to

take the Graduate Record Examination (GRE). The standard for admission based on GRE scores is a combined verbal and math score of 1000 or better. Materials must be uploaded as part of the online application process.

Applicants to the Master of Science program in Criminal Justice must: 1) complete and submit the Graduate School's on-line admission application at <http://www.gradadmissions.wayne.edu>; 2) have their official transcripts mailed directly from the applicant's undergraduate school/college to the Office of Graduate Enrollment Services, Wayne State University, Detroit, MI 48202 (student transcripts may not be transmitted via the applicant); 3) have two (2) letters of recommendation from former professors or instructors submitted online; and 4) submit a personal statement. Personal statements should be no longer than one single-spaced page. Statements must be submitted as part of the online application process. Applicants with an undergraduate g.p.a. between 2.90 and 2.99 must upload their materials as part of the online application process.

Questions concerning the admission process should be directed to the Criminal Justice Department at (313) 577-2705.

**DEGREE REQUIREMENTS:** The Master of Science degree is awarded upon successful completion of thirty-two credits in selected course work, including required core courses (see below) and electives, as described in the student's Plan of Work and the satisfactory completion of either a master's thesis or a master's essay. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 36 and 279, respectively. Students should also obtain a copy of the Criminal Justice Department's *Graduate Handbook: Degree Requirements, Policies and Procedures*. The degree is offered as either a Plan A or Plan B option, as follows:

**Plan A:** *Thirty-two credits in course work including a thesis.*

This plan is designed for students who intend to pursue doctoral work in the social sciences and who demonstrate exceptional ability in research methods. Consult the Department Chairperson or the Graduate Director for further details.

**Plan B:** *Thirty-two credits in course work, including a three credit essay demonstrating substantial research and mastery of a selected topic.*

**Law Course:** As part of the requirements for the Master's degree, all students must take a course on the law. This requirement can be fulfilled in one of three ways: (1) an undergraduate course on the law taken as an undergraduate student; (2) an undergraduate course on the law taken as a graduate student; or (3) a graduate course on the law taken as a graduate student (which can be used as an elective under Area B).

### *CORE COURSES (32 credits)*

CRJ 7010 -- Contemporary Criminal Justice: Cr. 3

CRJ 7020 -- The Nature of Crime: Cr. 3

CRJ 7860 -- Research Methods in Criminal Justice: Cr. 3

P S 5630 or SOC 6280

-- Statistics & Data Analysis in Political Science I: Cr. 4

-- Social Statistics: Cr. 4

**AREA A:** Take no less than two of the following courses (6 credits):

CRJ 7200 -- Public Policy and Criminal Justice: Cr. 3

CRJ 7220 -- Delinquency and Justice: Cr. 3

CRJ 7230 -- Policing and Society: Cr. 3

CRJ 7240 -- Corrections: Cr. 3

**AREA B:** Electives (6 to 9 credits). At least 3 elective credits must be in CRJ courses:

Students electing a Master's thesis (Plan A) take approved electives totaling at least 7-9 credits;

or

Students electing a Master's essay (Plan B) take approved electives totaling at least 10 credits

**Elective Courses:** The elective courses are to be chosen after a conference with the Graduate Director to determine the plan which is most consistent with the student's educational and career goals. These courses will be specified in the student Plan of Work. Some elective credit may have to be used to satisfy the College of Liberal Arts and Sciences requirement that at least six credits in course work be at the 7000 level or higher, and that at least six credits (excluding core courses) be taken in the major area. With the exception of one 5000-level elective course, all remaining courses toward the degree must be taken at the 6000 level or higher.

**AREA C:** (3-6 credits)

CRJ 7999 or CRJ 8999

-- Master's Essay Direction: Cr. 3

-- Master's Thesis Research and Direction: Cr. 4-6

## Assistantship

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

The Department of Criminal Justice offers a graduate teaching assistantship for one academic year, which may be extended for an additional academic year. Qualifications include high undergraduate academic performance, high Graduate Record Examination scores (if applicable), and admission as a regular master's student in the Criminal Justice master's degree program. Interested individuals may apply at any time between September 1 through March 1 for the following academic year by sending a resume and a cover letter to the: Graduate Director, Department of Criminal Justice, Wayne State University, 3291 Faculty/Administration Building, Detroit, MI 48202. Additional information may also be obtained by contacting the Graduate Director at (313) 577-2705.

## GRADUATE COURSES (CRJ)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only can be found in the undergraduate bulletin, along with all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5150 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. (T)

### **5430 Correctional Counseling Methods. Cr. 3**

Prereq: CRJ 4410 or former 2410. No credit after former CRJ 6991. 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. (W)

### **5500 Child Abuse and Neglect. Cr. 3**

Prereq: CRJ 4410 or former 2410. Dynamics and psychopathology of child abuse: its incidence and impact on the family, society, and the numerous social and legal agencies involved in the detection, processing, and treatment of both child abusers and the abused. (F)

### **5710 Constitutional Criminal Procedure. Cr. 4**

Prereq: minimum of twelve credits in criminal justice; CRJ 1010 or 2000. Not for graduate credit without consent of graduate program advisor. 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. (T)

### **5720 Criminal Law. Cr. 4**

Not for graduate credit without consent of graduate program advisor. Examination of common law and statutory rules, doctrines, and principles of substantive criminal law; development of criminal law, general elements of crime, general defenses, principles of accountability, and particular elements of specific crimes. (T)

### **5790 Topics in Justice and Law. Cr. 3-4**

Prereq: junior status; 3.0 g.p.a. or above, or honors student. Legal analysis of selected topics in justice and law; rotating topics including political trials and wrongful convictions. (I)

### **5810 (SOC 5810) Law in Human Society. Cr. 3**

Law and the legal structure in its social context. Development, enforcement, and interpretation of law; emphasis on the American governmental system. Reciprocal effects of law and the society in which it develops; comparative analysis. For pre-law, criminal justice, and political science students, as well as for sociology majors. (Y)

### **5994 (PCS 5000) Dispute Resolution. (P S 5890) (PSY 5710) Cr. 3**

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. (T)

### **5995 Special Topics in Criminal Justice. Cr. 3 (Max. 9)**

Prereq: CRJ 1010 or 2000. No credit for repeated section. (I)

### **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. (F)

### **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. (W)

### **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. (B:F)

### **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. (B:W)

### **7230 Policing and Society. Cr. 3**

Prereq: CRJ 1010 or former CRJ 2000 and CRJ 4600. 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. (B:W)



**7240 Corrections. Cr. 3**

Prereq: CRJ 4300. 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. (B:F)

**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. (W)

**7990 Directed Study. Cr. 1-3 (Max. 3)**

Prereq: 24 graduate credits in major and written consent of advisor. (T)

**7995 Special Topics in Criminal Justice and Criminology. Cr. 3 (Max. 9)**

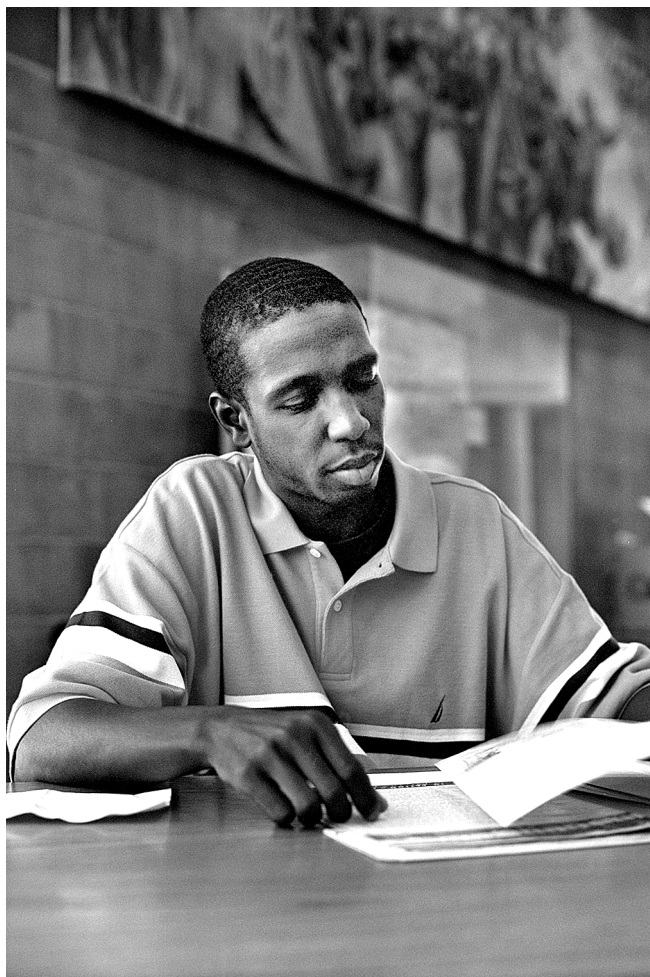
Prereq: graduate standing. Specialized topics in criminal justice. Topics may vary from semester to semester. May be repeated for a maximum of nine credits when subject matter differs. (I)

**7999 Master's Essay Direction. Cr. 3**

Prereq: written consent of advisor. (T)

**8999 Master's Thesis Research and Direction. Cr. 4-6**

Prereq: written consent of advisor. (T)



# Economics

*Office:* 2074 Faculty/Administration Building; 313-577-3345

*Chairperson:* Li Way Lee

*Administrative Assistant:* Delores G. Tennille

*Website:* <http://www.clas.wayne.edu/Economics/>

## Professors

Nancy S. Barrett, Ralph M. Braid, Clifford Clark (Visiting), Allen C. Goodman, Li Way Lee, Robert J. Rossana, Stephen J. Spurr, Gail Jensen Summers

## Associate Professors

Kevin D. Cotter, Michael H. Belzer, Ana Maria Herrera

## Assistant Professors

Liang Hu, Yong-Gook Jung, Xu Lin, Tatsuma Wada, Jennifer Ward-Batts, Young-Ro Yoon

## Graduate Degrees

*MASTER OF ARTS with a major in Economics*

*DOCTOR OF PHILOSOPHY with a major in Economics*

The Department encourages applications from students with broad intellectual interests as well as strong quantitative skills, regardless of undergraduate major.

The M.A. in Economics can be a terminal degree leading to careers in business, public service, or junior college teaching. Because many master's students study part-time, the Department schedules as many core courses in the evening as possible.

The Ph.D. curriculum provides thorough training for professional economists through course work, tutorials and research workshops. It gives students a solid foundation in economic theory and econometrics and offers several carefully selected fields of specialization. The Department's Ph.D. graduates choose careers in business, research, and academia.

## Master of Arts with a Major in Economics

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants to this program must hold a bachelor's degree, with an undergraduate grade point average of at least 3.0 for regular admission. Exceptions may be authorized only by the Department's Admissions Committee. Consistent with Graduate School requirements, international applicants must demonstrate English proficiency by obtaining a satisfactory score on the Test of English as a Foreign Language (TOEFL).

Applicants are expected to have completed the following courses or their equivalents as undergraduate or post-bachelor students:

ECO 5000 -- Intermediate Microeconomics: Cr. 4

ECO 5050 -- Intermediate Macroeconomics: Cr. 4

ECO 5100 -- Introductory Statistics and Econometrics: Cr. 4

MAT 2010 or a similar introductory course in differential and integral calculus provides minimal mathematics requirements. Additional courses in calculus and linear algebra are desirable although not required.

Regular admission may be granted to an applicant who has not completed these courses, in which case they must be completed before taking 6000- or 7000-level courses. Such an applicant may earn graduate credit for one of these 5000-level economics courses.

**DEGREE REQUIREMENTS:** The Department of Economics offers the Master of Arts degree under Plan C only, as described below. With the approval of the M.A. program advisor, the student must choose this option when filing a Plan of Work. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

**Plan C:** Thirty-two graduate credits are required.

Economics 6000, 6050, and 6100 or the equivalent must be elected. A two-course sequence at the 7000 level is required, chosen from one of the following: Macroeconomics (ECO 7050-7060), Microeconomics (7000-7010), Econometrics (7100-7110), Industrial Organization (7200-7210), International Economics (7300-7310), Labor and Human Resources (7400-7410), or Health Economics (7550-7560). Neither a thesis nor an essay is required under this plan. Three written examinations are required.

**Candidacy:** To be eligible for candidacy, the student must file a Plan of Work, approved by the master's program advisor, with the graduate officer of the College of Liberal Arts and Sciences. (Candidacy will not be authorized unless the applicant's grade point average is 3.0 or better.) Students enrolled in master's degree programs are expected to file a Plan of Work by the time eight to twelve graduate credits have been earned.

## Master of Arts/Juris Doctor

This Department in cooperation with the Law School offers a joint degree program leading to a Master of Arts degree with a major in Economics and a Juris Doctor degree. Students in this program must be admitted to both the Law School and the Department of Economics and must complete all requirements for the Economics M.A. degree and all requirements for the J.D. degree. After admission to the Law School, the student must complete the first year of the J.D. program before electing additional economics courses. For details on admission requirements and degree requirements for the joint J.D./M.A. program, visit the department website at the following address: <http://www.clas.wayne.edu/Economics/>

## Doctor of Philosophy with a Major in Economics

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants to this program must hold a bachelor's degree and have a grade point average of at least 3.0. Applicants must include verbal, quantitative and analytical Graduate Record Examination scores and three letters of recommendation from officials or teaching staff of the institution(s) most recently attended. Applicants from other countries must demonstrate English proficiency by obtaining a satisfactory score on the Test of English as a Foreign Language (TOEFL).

Applicants are expected to arrive with the following preparation:

ECO 5000 – Intermediate Microeconomics: Cr. 4

ECO 5050 – Intermediate Macroeconomics: Cr. 4

ECO 5100 – Introductory Statistics and Econometrics: Cr. 4

MAT 2010 or a similar introductory course in differential and integral calculus provides minimal mathematics requirements. Additional courses in calculus and linear algebra are highly desirable although not required.

**DEGREE REQUIREMENTS:** Ph.D. students in economics must successfully complete ninety credits in graduate study, consisting of sixty credits in course work and thirty credits in dissertation research. The thirty credit dissertation registration requirement is fulfilled by registering for the courses ECO 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and

degrees; see sections beginning on pages 32 and 279, respectively. Advancement to candidacy will require about three years of full-time study beyond the bachelor's degree and is granted upon completion of the following requirements:

1. Completion of a Plan of Work, which must be approved by the Director of Graduate Studies in Economics and by the Dean of the Graduate School. The Plan of Work must be filed by the completion of the first year of doctoral study.

2. Completion of course work in economic theory (ECO 7020, 7021, 7000, 7010, 7050, 7060) and in two of the following five fields: advanced macroeconomics, health economics, industrial organization; international economics; and labor economics. Proficiency must be demonstrated by passing qualifying examinations in microeconomic theory, macroeconomic theory, and two selected fields.

3. Completion of course work in quantitative methods (ECO 7100 and 7110, 7120).

4. An oral examination on research.

**Minor Requirements:** Students must complete at least eight credits in a minor field, subject to the approval of the Director of Graduate Studies in Economics. These courses may include other economics courses not specified in the major requirements.

**Doctoral Dissertation Outline and Record of Approval:** This form must be approved by the student's dissertation advisory committee, the Director of Graduate Studies in Economics, and the Dean of the Graduate School.

**The Doctoral Dissertation:** The doctoral candidate is required to submit a doctoral dissertation on a topic satisfactory to his/her Faculty Dissertation Committee.

**Public Lecture:** Upon acceptance of the dissertation, the student will deliver a final lecture in accordance with Graduate School procedures.

## Fellowships, Assistantships and Awards

Sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Teaching and research assistantships providing tuition, stipends and health insurance are available each year to highly qualified doctoral students. Fellowships and tuition scholarships are also available to doctoral students. Applications for Fall Semester appointments with financial aid should reach the Department by January 15; later applications will be considered if positions are available. Applications must include verbal, quantitative, and analytical Graduate Record Examination scores and three letters of recommendation from officials or teaching staff at the institution(s) most recently attended. Applicants from other countries must also demonstrate proficiency in spoken English before being assigned to teaching duties.

The Department encourages its graduate students to compete for the fellowships and scholarships awarded by the Graduate School, foundations, professional organizations, government units, and corporations.

Two departmental awards have been created to encourage research and publication in economics: the *Samuel M. Levin Essay Award* for the best research paper includes a prize of \$1000; the *Mendelson Research Grants* provide summer stipends of \$1500 to selected doctoral students working on their dissertations.

## GRADUATE COURSES (ECO)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin. Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### Field A — Economic Theory

#### **6000 Price and Allocation Theory. Cr. 4**

Prereq: ECO 5000 or equiv.; MAT 2010 or equiv. 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. (F)

#### **6050 Macroeconomics. Cr. 4**

Prereq: ECO 5050 or equiv. No credit after ECO 7050. 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. (W)

#### **7000 Microeconomic Theory I. Cr. 4**

Prereq: ECO 5000, 7020; MAT 2010 or MAT 5010 or equiv. 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. (W)

#### **7010 Microeconomic Theory II. Cr. 4**

Prereq: ECO 7000. Continuation of ECO 7000. Includes general equilibrium analysis and game theory. (F)

#### **7020 (ECO 5020) Fundamentals of Economic Analysis I. Cr. 4**

Prereq: ECO 5000 and MAT 2020 or equiv. ECO 5020 offered for undergraduate credit only; ECO 7020 offered for graduate credit only. 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. (F)

#### **7021 Fundamentals of Economic Analysis II. Cr. 4**

Prereq: ECO 5000 and MAT 2020; Coreq: ECO 7020. Mathematical methods specific to macroeconomics and econometrics. Applications of matrix operations, distribution functions, estimation methods, difference equations, differential equations, intertemporal optimization, calculus of variations, control theory. (F)

#### **7050 Macroeconomic Theory I. Cr. 4**

Prereq: ECO 5050 or equiv. 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. (F)

#### **7060 Macroeconomic Theory II. Cr. 4**

Prereq: ECO 7050 or equiv. 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. Theo-

ries of the business cycle: real business cycle models, Keynesian and New Classical theories of the business cycle. (W)

### Field B — Quantitative Methods

#### **6100 Introduction to Econometrics. Cr. 4**

Prereq: MAT 2010 and ECO 5100 or consent of instructor. 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. (F)

#### **6120 Statistics and the Law. Cr. 3**

Prereq: MAT 1800 or equiv. or consent of instructor. Available for Law School credit only to Law students. Not for Economics major credit. Application of statistics and economic analysis to issues arising in the legal system and the practice of law. Topics include: descriptive statistics, elements of probability, regression, and price theory. (W)

#### **7100 Econometrics I. Cr. 4**

Prereq: ECO 6100 or equiv.; ECO 7020 or consent of instructor. 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. (F)

#### **7110 Econometrics II. Cr. 4**

Prereq: ECO 7100 or consent of instructor. 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). (W)

#### **7120 Econometrics III. Cr. 4**

Prereq: ECO 7100 and ECO 7110. 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. (Y)

### Field C — Industrial Organization

#### **6200 (ECO 5200) Advanced Regulation and Regulated Industries. Cr. 4**

Prereq: ECO 5000. No credit after ECO 5200. Open only to graduate students. Public regulation of prices, profits, service, and entry in industries such as electrical power, natural gas, telephones, broadcasting, and transportation (emphasis varies with instructor); 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. Advanced mathematical analysis of selected topics. (Y)

#### **6210 (ECO 5210) Advanced Market Power and Economic Welfare. Cr. 4**

Prereq: ECO 5000. No credit after ECO 5210. Open only to graduate students. Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress, as illustrated by such industries as steel, automobiles, petroleum, retailing, or prescription drugs. Selected topics in

antitrust policy. Advanced mathematical analysis of selected topics. (Y)

**6250 (ECO 5250) Advanced Economic Analysis of Law. Cr. 4**  
Prereq: ECO 5000. No credit after ECO 5250. Open only to graduate students. 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. (Y)

**7200 Industrial Organization I. Cr. 4**  
Prereq: ECO 6000 or consent of instructor. Theories of competition and market power. Topics include concentration, scale economies, product differentiation, entry barriers, collusion, mergers, price discrimination, information, and advertising. (B)

**7210 Industrial Organization II. Cr. 4**  
Prereq: ECO 6000 or consent of instructor. 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. (B)

## Field D — International Economics

**6300 (ECO 5300) Advanced International Trade. Cr. 4**  
Prereq: ECO 2010. No credit after ECO 5300. Open only to graduate students. 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. (Y)

**6310 (ECO 5310) Advanced International Finance. Cr. 4**  
Prereq: ECO 5000 and ECO 5050. No credit after ECO 5310. Open only to graduate students. 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. (Y)

**7300 International Trade Theory. Cr. 4**  
Prereq: ECO 6000 or consent of instructor. 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. (B)

**7310 International Monetary Theory. Cr. 4**  
Prereq: ECO 6050 or consent of instructor. 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. (B)

## Field E — Labor and Human Resources

**6400 (ECO 5400) Advanced Labor Economics. Cr. 4**  
Prereq: ECO 5000. No credit after ECO 5400. Open only to graduate students. 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. (Y)

**6415 (ECO 5410) Advanced Economics of Race and Gender. Cr. 4**

Prereq: ECO 5000. No credit after ECO 5410. Open only to graduate students. 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. (Y)

**6420 Labor Relations and Public Policy. Cr. 3**  
Prereq: ECO 2010 or graduate standing. 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. (F,S)

**6460 (ECO 5460) Economic Demography. Cr. 4**  
Open only to graduate students. Prereq: ECO 5000 and ECO 5100 or consent of instructor. No credit after ECO 5460. Economic analysis of fertility, fertility control, mortality and aging, marriage, divorce, family structure, household-decision-making, human capital investments, and migration. Welfare and policy implications. Advanced mathematical analysis. (Y)

**6480 (ECO 5480) Advanced Economics of Work. Cr. 3**  
Prereq: ECO 2010. Open only to students in Master of Arts in Employment and Labor Relations (MAELR) program. Not open to other graduate students; not open to economics majors. 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. (Y)

**7400 Labor Economics and Human Resources. Cr. 4**  
Prereq: ECO 6000 or consent of instructor. Labor force participation and composition; factors affecting wage levels (money and real) and wage structure. Theoretical and empirical analyses of occupational choice, labor mobility, and income inequality. (B)

**7410 Economics of Human Resources. Cr. 4**  
Prereq: ECO 6000 and 6100 or consent of instructor. 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. (B)

## Field F — Public Finance

**6510 (ECO 5500) Advanced Public Finance. Cr. 4**  
Prereq: ECO 5000. No credit after ECO 5500. Open only to graduate students. 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. (Y)

**6520 (ECO 5520) Advanced State and Local Public Finance. (U P 6750) Cr. 4**  
Prereq: ECO 5000. No credit after ECO 5520. Open only to graduate students. 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. (Y)

**7500 Public/Urban Economics. Cr. 4**  
Prereq: ECO 6000 or ECO 7000. Theory of public goods; externalities; taxation from the standpoint of efficiency and income distribu-

tion; effects of taxation on labor supply and saving; local public finance; tax competition; transportation economics; housing economics. (B)

## Field G — Health Economics

### **6470 (ECO 5470) Advanced Economics of an Aging Society. Cr. 4**

Open only to graduate students. No credit after ECO 5470. Prereq: ECO 5000. Economic implications of aging and retirement: public policy issues related to aging, including health care, long term care, public pensions (Social Security), private pensions, savings behavior, income maintenance, Medicare, other welfare problems. Advanced mathematical analysis of selected topics. (Y)

### **6550 (ECO 5550) Advanced Economics of Health Care. Cr. 4**

Prereq: ECO 5000. No credit after ECO 5550. Open only to graduate students. 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. (Y)

### **7550 (FPH 7400) Economics of Health Care I. Cr. 3-4**

Prereq. for economics students only: ECO 6000 or consent of instructor. No credit after ECO 5550. Offered for four credits only to economics students. Required of all M.S. students in Community Health Services program. Basic introduction to health care economics including allocation of health care resources, economics of information, and the role of advertising. (B:W)

### **7560 Economics of Health Care II. Cr. 4**

Prereq: ECO 6000 or consent of instructor. No credit after ECO 5550. Particular roles of hospitals, physicians, and health insurance. Analysis of government policies. (B)

## Field H — Economic Development

### **6600 (ECO 5600) Advanced Development Economics. Cr. 4**

Prereq: ECO 5000. No credit after ECO 5600. Open only to graduate students. 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. (Y)

### **6650 (U P 6550) Regional, State, and Urban Economic Development: Policy and Administration. (P S 6440) Cr. 3**

Prereq: graduate standing. Examination of regional, state, and local economic development theory, analysis, policy and administration. (B)

## Field I — Macro and Financial Economics

### **6700 (ECO 5700) Advanced Money and Banking. Cr. 4**

Prereq: ECO 2020 and ECO 5050. Open only to graduate students. 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. (Y)

### **6720 (ECO 5720) Advanced Financial Economics. Cr. 4**

Prereq: ECO 2010, ECO 2020, ECO 5050, and MAT 1500 or equiv. Open only to graduate students. 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. Advanced mathematical analysis of selected topics. (Y)

### **6730 (ECO 5730) Economic Growth. Cr. 4**

Prereq: ECO 5050. Open only to graduate students. No credit after ECO 5730. Analytical methods used in classical and modern theories of economic growth. Topics include technological change, determinants of growth, convergence and income distribution. Introduction to the empirical analysis of economic growth and to important facts relative to policies and performances of countries. Advanced mathematical analysis of selected topics. (Y)

### **7700 Advanced Macroeconomics I. Cr. 4**

Prereq: ECO 7050 and ECO 7060. For Ph.D. students with macroeconomics as a field of concentration. Topics vary, and may include: economic growth, vector autoregressions, cointegration, fractional integration, breaks in economic time series, efficiency wage theories of labor market, contracting, incomplete markets and business cycles, buffer stock models of saving. Time series methods applied to economic time series such as real and nominal exchange rates and cross-country macroeconomic data. (B)

### **7710 Advanced Macroeconomics II. Cr. 4**

Prereq: ECO 7050 and ECO 7060. Continuation of ECO 7700. (B)

## Field J — Urban and Regional Economics

### **6455 (U P 6455) Discrimination and Fair Housing. (AFS 6455) (P S 6455) (SOC 6455) (U S 6455) Cr. 3**

Prereq: senior or graduate standing; for undergrads., consent of Director of Undergraduate Studies prior to registration. 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. (B)

### **6800 (ECO 5800) Advanced Urban and Regional Economics. Cr. 4**

Prereq: ECO 5000. No credit after ECO 5800. Open only to graduate students. 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. (Y)

### **6810 (ECO 6810) Political Economy of the Urban Ghetto.**

#### **(SOC 6850) (U P 6670) Cr. 3**

Prereq: graduate standing; upper division undergraduates admitted by consent of instructor, and with consent of Director of Undergraduate Studies prior to registration. Examination of the economic, social and political transformation of U.S. cities; particular attention to the formation, dynamics, economics and social sub-systems of urban ghettos and their relationship to broader contexts. (B)

## Directed Readings and Special Courses

### **7996 Research in Economics. Cr. 2-8 (Max. 16)**

Prereq: consent of advisor. Open to qualified students who desire opportunity for research and directed study. May be conducted as seminar. (T)

### **9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: ECO 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ECO 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

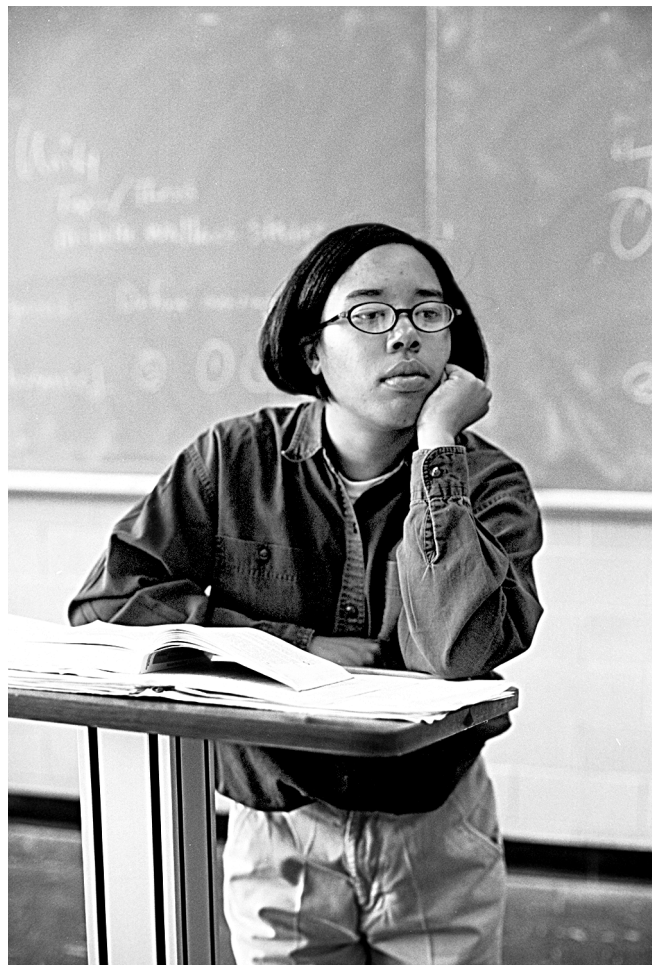
Prereq: ECO 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ECO 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: ECO 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ECO 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in ECO 9991- ECO 9994. Offered for S and U grades only.



# English

*Office:* Room 9408, 5057 Woodward; 313-577-2450

*Chairperson:* Ellen Barton

*Associate Chairperson:* Robert Aguirre

*Director of Graduate Studies:* Kenneth Jackson

*Website:* <http://www.clas.wayne.edu/english>

## *Professors*

Ellen Barton, Lesley Brill, Walter F. Edwards, Jerry Herron, Julie Klein, Christopher Leland, Richard C. Marback, Geoffrey Nathan, Ljiljana Progovac, Richard Raspa, Martha Ratliff, Ruth E. Ray, John R. Reed, Michael H. Scrivener, Steven Shaviro, Anca Vlasopolos, Barrett Watten

## *Associate Professors*

Robert Aguirre, Sarika Chandra, Jonathan Flatley, Gwendolen Gorzelsky, renee hoogland, Kenneth Jackson, Bernard Levine, Lisa Maruca, Caroline Maun, Frances Ranney

## *Assistant Professors*

Simone Chess, Lara Cohen, Jaime Goodrich, Chera Kee, John Pat Leary, Bruce S. Morgan, Jeffrey Pruchnic, Elizabeth Reich, Scott Richmond, Lisa Ze Winters, Stephen Yeager

## *Senior Lecturers*

Todd Duncan, Margaret Jordan, Michael L. Liebler, Thomas Trimble, Chris Tysh

## *Lecturers*

LaToya Faulk, Jared Grogan, Adrienne Jankens, Nicole Varty

## *Lecturer and Director, Writing Center*

Jule Wallis

## *Lecturers, English Language Institute*

Marta O. Dmytrenko-Ahrabian, Christopher Bierman, Dean-Michael Lynn, Sara Tipton

## *Director, English Language Institute*

Bruce S. Morgan

## *Emeritus / Emerita Professors*

Samuel Astrachan, Alvin B. Aubert, Arnold L. Goldsmith, Henry L. Golemba, Yates Hafner, William A. Harris, Arthur F. Marotti, Alfred Schwarz, Elizabeth S. Sklar, Robert M. Strozier II, Renata Wasserman, Beongcheon Yu

## Graduate Degrees and Certificates

*MASTER OF ARTS with a major in English*

*DOCTOR OF PHILOSOPHY with a major in English*

The graduate program in English is designed for students seeking the Master of Arts and Doctor of Philosophy degrees in this discipline who show promise in the formal study and teaching of language, literature and culture. The Department is engaged in research and reconceptualizing what it means to read and write English in the twenty-first century and invites energetic, intellectually adventurous students to join in this pursuit. The doctoral program provides the focus for all graduate studies, ensuring that all students receive an education at the highest possible level and that M.A. students who wish to do so can prepare themselves for a doctoral program. The

Ph.D. curriculum is offered in three concentrations: Literary and Cultural Studies; Composition Studies; and Film and Media Studies. The M.A. Program can be used to prepare for doctoral work and/or to develop expertise in particular areas of study (e.g., professional writing, creative writing) that may not lead to a doctoral program.

## Master of Arts with a Major in English

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Formal application should be made through the Graduate Enrollment Services office, however, students should consult with the English Department Director of Graduate Studies. The English Department requires that all applicants provide the following directly to the Director of Graduate Studies:

1. Statement of purpose
2. Two academic letters of reference
3. Sample essay from a previous English course
4. GRE General Test Scores

**DEGREE REQUIREMENTS:** The Master of Arts degree is offered as a Plan A or Plan B option. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

**Plan A:** Thirty-three credits, including an eight-credit thesis.

**Plan B:** Thirty-three credits, including a three-credit essay.

**Major Requirements:** The M.A. program in English is designed to prepare students to go on to doctoral work or to accommodate students with specific interests (e.g., professional writing, creative writing) that may not lead to further advanced study in English. The M.A. program requires thirty-three credits of course work, which must include:

- 1) Five 7000-level courses in English at Wayne State University
- 2) English 7999 (Master's Essay, three credits) or 8999 (Master's Thesis, eight credits) The thesis option is generally available only to students pursuing an interest in creative writing and working under the supervision of a creative writing faculty member. These options correspond to the Graduate School's Plans A or B described above.

**Foreign Language Requirement:** Students are required to demonstrate a reading knowledge of at least one foreign language. The preferred method for demonstrating proficiency is to take and pass a translation examination. For further details, consult the Director of Graduate Studies.

## Doctor of Philosophy with a Major in English

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Formal applications must be submitted to the Graduate Enrollment Services office, however, prospective students should consult with the English Department's Director of Graduate Studies. Students may apply to the Ph.D. program with either a B.A. or M.A. degree. The application deadline is January 15, but every Ph.D. student must begin the program in the fall semester. The English Department requires that all applicants provide the following directly to the Director of Graduate Studies.

1. Statement of purpose indicating areas of research interest
2. At least two academic letters of reference
3. Samples of the student's scholarly and critical writing
4. GRE General Test Scores

**DEGREE REQUIREMENTS:** The Ph.D. program requires ninety credits of course work beyond the B.A. degree, which must include:

1. Sixty credits of course work (for students entering the program with an M.A., up to thirty credits may be transferred from another institution)
2. Completion of distribution requirements within and outside concentration areas listed below
3. Thirty credits of dissertation courses (ENG 9991, 9992, 9993, 9994) taken in consecutive academic year semesters following the completion of regular course work and the Qualifying Exam
4. All courses must be at the 7000- or 8000- level; permission from the Director of Graduate Studies is required to take courses at lower levels unless such courses are required by the English Department (e.g., ENG 6001, Pedagogical Practicum I and ENG 6004, Pedagogical Practicum II, for graduate teaching assistants)

All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

**Course Requirements:** The Ph.D. program has three concentrations: Literary and Cultural Studies; Composition Studies; and Film and Media Studies. (Recent job placement history suggests that particular strengths in composition and rhetoric, early modern studies, and twentieth-century literature are advantageous in securing employment.) Each doctoral student must select a concentration early enough in her or his program to fulfill the course distribution requirements.

1. All new Ph.D. students are required to take an introductory course (ENG 7001, Issues in Critical Theory) in their first semester of studies. Accordingly, ENG 7001 is offered every Fall term.
2. Each student must take at least two courses in his or her concentration, usually at the 7000-level. These courses provide students with a broad coverage of representative texts and issues.
3. Each student also must take at least two courses outside her or his concentration. Courses taken outside the concentration are usually at the 7000-level and may be selected from the other two English Department concentrations or from other areas of English Department graduate study (linguistics, creative writing, etc.).
4. Each student must then take at least two 8000-level seminars in her or his concentration. 8000-level seminars are more specialized explorations of a research problem within a professor's area of expertise.
5. In addition, each student must identify a two-course cognate/minor outside her or his concentration. This requirement can be satisfied by fulfilling other requirements in the doctoral program (see item #3 above) or by taking courses in another department (pending permission of Director of Graduate Studies and advisor).
6. Each Graduate Teaching Assistant must take ENG 6001, Pedagogical Practicum I, in the first semester in which she or he holds the assistantship and ENG 6004, Pedagogical Practicum II, in the second semester. Accordingly, ENG 6001 is offered every Fall term and ENG 6004 every Winter term.

**Foreign Language Requirement:** Students are required to demonstrate a reading knowledge of at least one foreign language. The preferred method for demonstrating proficiency is to pass a translation examination. For further details, consult the Director of Graduate Studies

**Final Qualifying Examination:** One year before she or he plans to take the Qualifying Examination (QE), each student meets with her or his advisor to declare the field and emphasis in which she or he plans to be examined. Designated fields reflect the current division of the discipline as published by the Modern Language Association. Emphases are designed to underscore the necessity of embedding

doctoral work in ongoing critical debates among the various disciplines and sub-disciplines that make up English studies. An emphasis should identify a topical or thematic category and/or articulate a theoretical or methodological approach. Along with the advisor's approval, a student will need to list the two (or more) courses that support the declared emphasis and obtain signatures from the professors of those courses attesting to the appropriateness of their courses for that emphasis. The student writes a brief description of her or his field and emphasis and the dissertation director presents this to the Department Graduate Committee. The Graduate Committee selects the other two members of the QE Committee. The QE Committee then works with the student to construct a list of texts on which she or he is to be examined (roughly 100-120 texts). The exam itself should be scheduled no later than the semester following the completion of course work. The QE Committee composes questions for a four-hour written examination. Within one week after taking the written exam, the student then takes a ninety-minute oral examination. The student passes or fails the exam in its entirety. No later than one month after successful completion of the Qualifying Examination, the student selects a dissertation committee consisting of three members of the English Department graduate faculty and one appropriately qualified individual who is not a member of the committee English Department. Members of this committee may or may not have been members of the student's QE Committee.

A final Public Lecture Presentation-Defense, after the dissertation has been completed, is also required. For a description of this, see page 40.

## Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

**Assistantships:** Departmental teaching assistantships are awarded on a competitive basis to doctoral students. Assistantships are awarded each spring and take effect the following fall. Inquiries and applications should be addressed to the Director of Graduate Studies.

**DeRoy Fellowship:** Award open to students entering the Ph.D. program. Students with an interest in film and media studies are especially urged to apply, but the fellowship is open to all entering students and is awarded on the basis of academic performance and promise.

**Albert Feigenson Endowed Memorial Scholarship:** Award open to full-time students majoring in music or English, with high scholastic standing and demonstrated financial need. Contact the English Department or the Office of Financial Aid.

**Thomas R. Jasina Endowed Scholarship in English:** Award open to full- or part-time students with high achievement and demonstrated financial need.

**Terrance King Endowed Memorial Fellowship in English:** Award open to an exceptionally promising Ph.D. student, based on the quality of the dissertation project.

**Loughead-Eldredge Endowed Scholarships in Creative Writing:** Award open to M.A. students in creative writing who are in good academic standing and are enrolled for at least six credits. Contact the English Department for details.

**Doretta Burke Sheill Endowed Memorial Scholarship:** Award open to students majoring in English with high scholastic achievement, character, leadership, and financial need. Contact the English Department and the Office of Financial Aid.

**Stephen H. Tudor Memorial Scholarship in Creative Writing:** Award open to full-time degree-seeking students majoring in English who have completed at least fifteen credits in residence and demonstrate high achievement in creative writing. Contact the English Department for details.

**Dennis Turner Memorial Scholarship in Film Studies:** Award open to full-time students demonstrating a strong interest in film studies and maintaining a minimum 3.0 g.p.a.

**Pearl Applebaum Warn Endowed Scholarship in English:** Award open to returning full- or part-time students twenty-seven years and older, with high scholastic achievement and demonstrated financial need.

## GRADUATE COURSES (ENG)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5010 Advanced Expository Writing. Cr. 3 (Max. 6)

Prereq: grade of B or better in an intermediate writing course or consent of instructor. Advanced study and practice in various forms of expository prose, especially the essay. Topics to be announced in the Schedule of Classes. (Y)

### 5020 Topics in Media and Modern Culture. Cr. 4 (Max. 12)

Prereq: ENG 2450/COM 2010 or consent of instructor. Topics may include: history of television, the internet, video games, other visual media; topics announced in the Schedule of Classes. Material fee as stated in the Schedule of Classes. (B)

### 5030 (ENG 5030) Topics in Women's Studies. (W S 5030) Cr. 3 (Max. 9)

Prereq: 12 credits in ENG above the 1000 level. Thematic, critical or generic study of women and literature. Topics to be announced in the Schedule of Classes. (Y)

### 5040 Film Criticism and Theory. Cr. 4

Prereq: ENG 2450/COM 2010 or another film course or consent of instructor. Survey of the major film theories from Munsterberg to contemporary film semiotics; examination of various attempts made at a systematic understanding of the cinema. Material Fee as indicated in the Schedule of Classes. (Y)

### 5050 Historical Topics in Film and Media. Cr. 4 (Max. 12)

Prereq: ENG 2450/COM 2010 or consent of instructor. 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. Material Fee as indicated in the Schedule of Classes. (B)

### 5060 Styles and Genres in Film. Cr. 4 (Max. 12)

Prereq: ENG 2450/COM 2010 or consent of instructor. Study of significant works within selected genres, such as the western, horror, comedy, animation. Topics to be announced in the Schedule of Classes. Material Fee as indicated in the Schedule of Classes. (Y)

### 5070 Topics in Film and Media. Cr. 4 (Max. 12)

Prereq: ENG 2450/COM 2010 or consent of instructor. 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. Material Fee as indicated in the Schedule of Classes. (Y)



**5080 Topics in Cross-Disciplinary and Cultural Studies. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Study of cultural formations and practices from comparative and interdisciplinary perspectives furnished by history, semiotics, anthropology, linguistics, sociology, feminism, psychoanalysis, rhetoric, etc. Topics to be announced in the Schedule of Classes. (Y)

**5090 Topics in Literary and Cultural Theory. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. 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. (Y)

**5100 Literature of the Middle Ages. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Readings in Old and Middle English literature (900-1500), mostly in translation. Topics to be announced in the Schedule of Classes. (I)

**5110 Chaucer. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Readings from *The Canterbury Tales* and from Chaucer's other works in cultural context. (I)

**5120 Topics in Medieval Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Themes, genres, writers in English and continental Medieval literature. Topics to be announced in the Schedule of Classes. (I)

**5140 Introduction to Old English. Cr. 3**

The fundamentals of language and grammar and the literary analysis of Old English texts. (I)

**5150 Shakespeare. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. For English majors and others interested in more intensive study than is offered in ENG 2200. Some attention to Shakespearean scholarship. (B)

**5170 Literature of the English Renaissance: 1500-1660. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Survey of literature in all genres from Skelton through Milton, with an emphasis on non-dramatic poetry and prose. (I)

**5180 Milton. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Emphasis on Milton's major poetry through attention to his prose and to historical background. (I)

**5190 Topics in Renaissance Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Studies of particular authors or groups of authors from 1500-1660 or of literary works from period, generic, thematic or methodological focuses. Topics to be announced in the Schedule of Classes. (B)

**5200 Restoration and Eighteenth Century Literature. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. A survey of English literature from 1660 to 1784. Readings from authors such as John Dryden, Aphra Behn, Mary Astell, Alexander Pope, Lady Mary Montagu, Jonathan Swift. (B)

**5240 Topics in Restoration and Eighteenth Century Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. For students familiar with literary history of the period. Special topics for detailed study of a genre, movement or author to be announced in the Schedule of Classes. (B)

**5260 Literature of the Romantic Period. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. 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). (B)

**5270 Literature of the Victorian Period. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. 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). (B)

**5290 Topics in Nineteenth Century Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Readings emphasize thematic, generic, historic or aesthetic concerns in literature of the period. Topics to be announced in the Schedule of Classes. (B)

**5300 Twentieth Century British Literature. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Selected works in all genres from 1900 to the present. (B)

**5320 Topics in Twentieth Century British Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Selected writers, themes, or genres, movements: Eliot, Auden, Shaw, Lawrence; the modern novel, Bloomsbury, The Great War, the Thirties. Topics to be announced in the Schedule of Classes. (B)

**5400 American Literature to 1800. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. A survey of American literature from the beginnings through the early national period, emphasizing the constructions of crucial cultural phenomena like nation-building, colonialism, liberty and union, assimilation. (I)

**5410 American Literature: 1800-1865. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Survey of writers, themes and movements which have had dramatic influence in defining American culture. Writers such as Dickinson, Douglass and Emerson, and literary movements like Transcendentalism and Romanticism are studied as well as the forces that produced them, especially race, class and gender. (B)

**5420 American Literature: 1865-1914. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. 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 like Cahan, Chopin, Dreiser and Dunbar. (Y)

**5450 Modern American Literature. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Survey of culturally-significant writers that arose from cultural phenomena since 1914, such as: the Harlem Renaissance, Modernism, Postmodernism; authors like Ellison, Hemingway, Morrison, Stein. (Y)

**5460 Topics in American Literature of the Twentieth Century. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Twentieth century literature from specific perspectives, such as generic, historical, thematic. Topics to be announced in the Schedule of Classes. (I)

**5470 Survey of African-American Literature. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Historical survey of African-American literature from Colonial times through the twentieth century. (B)

**5480 Topics in African American Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. 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. (Y)

**5490 Topics in American Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. 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. (I)

**5500 Topics in English and American Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. Generic, historical or thematic perspectives. Topics such as the romantic hero, the divided self in modern literature; to be announced in the Schedule of Classes. (I)

**5520 Irish Literature. Cr. 3**

Prereq: 12 credits in ENG above the 1000 level. Major twentieth century Irish writers in the context of Irish history and politics: W.B. Yeats, James Joyce, major dramatists. (I)

**5565 Postmodernism. Cr. 3**

Prereq: satisfactory completion of IC requirement. Advanced study of postmodern literature and culture, with attention to its international flavor and to critical theory. Possible authors: Beckett, Calvino, Nabokov, Acker, DeLillo, Pynchon. (Y)

**5590 Topics in Comparative Literature. Cr. 3 (Max. 9)**

Prereq: 12 credits in ENG above the 1000 level. The study of literary texts from an international point of view. Topics to be announced in the Schedule of Classes. (B)

**5600 Studies in Folklore. Cr. 3**

Basic concepts, methods, and issues of folklore study. Comparative and interdisciplinary approach to problems of definition, form, creation, performance, transmission, and cultural, historical, psychological and literary significance. (B)

**5650 Folklore and Literature. Cr. 3**

Identification and analysis of the interrelations of folklore and literature. (B)

**5670 Topics in Folklore and Folklife. Cr. 3 (Max. 9)**

Topics such as fieldwork; analysis of collected oral literature; study of separate genres of oral literature, social folk custom, and folk arts. Topics to be announced in the Schedule of Classes. (B)

**5690 History and Future of the Book. Cr. 3**

Prereq: satisfactory completion of IC requirement. 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. (Y)

**5700 Introduction to Linguistic Theory. (LIN 5700) Cr. 3**

Introduction to the scientific study of language and methodologies of linguistic analysis: phonetics and phonology, morphology, syntax, semantics, sociolinguistics, and pragmatics. Introduction to selected disciplinary and interdisciplinary topics: typology and universals, communication systems, psycholinguistics, sociolinguistics, historical linguistics, anthropological linguistics. (Y)

**5710 (ENG 5710) Phonology. (LIN 5290) Cr. 3**

Prereq: ENG 5700 or LIN 5700. Basic introduction to articulatory phonetics; natural language sound systems and phonological processes studied through data analysis of phonological problems from a wide range of languages. (Y)

**5720 Linguistics and Education. (LIN 5720) Cr. 3**

Introduction to linguistics with emphasis on applications to education. (Y)

**5730 English Grammar. (LIN 5730) Cr. 3**

Comprehensive analysis of English sentence structure and parts of speech using the terminology and descriptive approach of traditional grammar. (Y)

**5740 Syntax. (LIN 5300) Cr. 3**

Prereq: ENG 5700 or LIN 5700. The theory of grammatical systems examined through analysis of sentence and word formation in a variety of human languages. Diversity and universals in grammar discussed and various theories of syntax reviewed. (Y)

**5750 Theories of Second Language Acquisition. (LGL 5750) (LIN 5750) 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. (Y)

**5760 American Dialects. (LIN 5760) Cr. 3**

Survey of chief social and geographic dialects of American English and introduction to theory of language variation. (I)

**5770 Sociolinguistics. (LIN 5770) 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. (B)

**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. Course includes extensive reading and writing. (B)

**5820 Internship Practicum. Cr. 3 (Max. 6)**

Undergrad. prereq: junior or senior standing, written consent of internship director; grad. prereq: written consent of graduate director. Students work 8-20 hours per week as writers, editors or researchers in publishing firms and in public information and research divisions of other businesses and community organizations; students meet once per week in classroom sessions on analytical, literary and other scholarly texts related to their workplace experience. (T)

**5830 Introduction to Technical and Professional Writing Practices. Cr. 3**

Prereq: grade of B or better in intermediate writing course or consent of instructor. 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. (B)

**5840 Theoretical Approaches to Technical and Professional Writing. Cr. 3**

Prereq: ENG 5830 or consent of advisor. 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. (B)

**5850 Introduction to Scholarly Writing for Non-native English Speakers. Cr. 2**

Open only to non-native speakers of English. Prereq: graduate standing; written consent of ELI Director. Intensive practice in writing at the graduate level for non-native speakers of English. (F,W)

**5860 Topics in Creative Writing. Cr. 3 (Max. 6)**

Prereq: ENG 3810, 3820, or 3830; or consent of instructor after submission of manuscript. Topics include new genres, new media, and writing for public audiences. (Y)

**5870 Poetry Writing Workshop. Cr. 3 (Max. 6)**

Prereq: ENG 3810, 3820, or 3830; or consent of instructor after submission of manuscript. The writing of poetry, conducted on a seminar basis; discussion and criticism of the work of students in the course. Frequent individual conferences. (Y)

**5880 Fiction Writing Workshop. Cr. 3 (Max. 6)**

Prereq: ENG 3810, 3820, or 3830; or consent of instructor after submission of manuscript. The writing of fiction, conducted on a seminar basis; discussion and criticism of the work of students in the course. Frequent individual conferences. (Y)

**5885 Topics in Creative Non-Fiction Writing. Cr. 3 (Max. 6)**

Prereq: satisfactory completion of IC requirement. Study and practice of hybrid forms that blend reportage and imaginative writing. Attention to essays, memoir, and personal writing. (Y)

**5890 (ENG 5890) Writing for Theatre. (THR 5130) Cr. 3 (Max. 6)**

Prereq: ENG 3830 or consent of instructor. Advanced study, in a workshop setting, of dramatic structure and writing for the theatre, terminating in the writing of an original stage play. (Y)

**5990 Directed Study in English. Cr. 1-3 (Max. 6)**

Undergrad. prereq: 3.0 g.p.a., proposal submitted in preceding term, written consent of instructor and chairperson; grad. prereq: written consent of advisor and graduate officer. Advanced work for superior students whose program cannot be adequately met by scheduled classes. Course requires substantial written work. (T)

**6001 Pedagogical Practicum I. Cr. 2**

Open only to new graduate teaching assistants. Instruction and resources to prepare newly-appointed graduate teaching assistants for teaching in the Wayne State composition program. (F)

**6004 Pedagogical Practicum II. Cr. 2**

Open only to second-semester graduate teaching assistants in the department. Prereq: ENG 6001. Instruction and resources to support graduate teaching assistants during their first semester teaching in the Wayne State Composition Program. (W)

**6010 Tutoring Practicum. Cr. 3**

Prereq: junior or senior standing; completion of Intermediate Composition requirement. Integration of theories of language, learning and composition into a teaching practicum for prospective teachers at the secondary level and beyond. (Y)

**6100 Introduction to Old English. Cr. 3**

The fundamentals of language and grammar and the literary analysis of Old English texts. (I)

**6720 Topics in Language. (LIN 6720) Cr. 3 (Max. 12)**

Topics such as: morphology, semantics, pragmatics, historical linguistics, history of English, language and gender, language and variation; to be announced in the Schedule of Classes. (Y)

**6800 Advanced Creative Writing. Cr. 3 (Max. 6)**

Prereq: grade of B or better in any 5000-level creative writing course or consent of instructor after submission of manuscript. Writing in any of the creative forms. Work by students presented in seminar meetings; individual conferences. Topics to be announced in the Schedule of Classes. (Y)

**7001 Issues in Critical Theory. Cr. 4**

Prereq: admission to doctoral program; written consent of graduate advisor. Must be taken in first semester of doctoral studies. Training in fundamental critical and professional issues through reading and writing about problems, issues and text central to English studies. (F)

**7002 History of Critical Theory. Cr. 4 (Max. 8)**

Prereq: graduate standing. Instruction in the history of critical theory through examination of critical and/or representative texts in that history. (B)

**7003 Contemporary Literary Theory. Cr. 4 (Max. 8)**

Prereq: graduate standing. In-depth reading of and education in contemporary literary works which are important to the discipline of English studies. (B)

**7004 Theoretical Issues in Cultural Studies. Cr. 4 (Max. 8)**

Prereq: graduate standing. Intensive reading in and writing about central theoretical issues in cultural studies. (B)

**7005 Film Theory. Cr. 4 (Max. 8)**

Prereq: graduate standing. Basic knowledge of film theory; especially for students who will have a concentration in film and media studies. (B)

**7006 Media Theory. Cr. 4 (Max. 8)**

Prereq: graduate standing. Important issues and theories in media studies. (B)

**7007 Composition Theory. Cr. 4 (Max. 8)**

Prereq: graduate standing. Seminar on such topics as: the writing process, computers in composition, theory of basic writing, theory of technical/professional writing. (Y)

**7011 Studies in Medieval Literature. Cr. 4 (Max. 8)**

Prereq: graduate standing. Selected topics, such as Arthurian legend, the alliterative revival, problems in Chaucer criticism. (I)

**7012 Sixteenth-Century Literature. Cr. 4 (Max. 8)**

Prereq: graduate standing. Readings in representative works in literature in English of the 16th century. (B)

**7014 Seventeenth-Century Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. Reading and writing about representative texts of 17th century literature in English. (B)

**7015 Studies in Shakespeare. Cr. 4 (Max. 8)**

Prereq: graduate standing. Special problems in current scholarship and criticism. (B)

**7016 English Drama from the Medieval Cycle Plays to 1642. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of representative English dramas from the medieval period to mid-seventeenth century. (B)

**7021 Studies in Restoration and Eighteenth Century Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies of particular authors or genres. (I)

**7022 Studies in Romantic Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. Topics such as Wordsworth and Coleridge, crisis and triumph of the romantic imagination. (I)

**7023 Studies in Victorian Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. Poetry, non-fictional prose, drama, fiction. (I)

**7024 The Rise of the Novel. Cr. 4 (Max. 8)**

Prereq: graduate standing. Tracing the development of the novel. (B)

**7025 Fin de Siecle. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies in turn of the century literature and culture. (B)

**7026 Transatlantic and Comparative Studies. Cr. 4 (Max. 8)**

Prereq: graduate standing. Course focuses on literature and culture from a transatlantic and/or comparative perspective. (B)

**7031 Naturalism and Realism. Cr. 4 (Max. 8)**

Prereq: graduate standing. In-depth study of naturalist and realist writings, and of naturalism and realism as categories of classification. (B)

**7032 Modernism and Modernity. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies in modernism as a literary and cultural movement and/or in modernity as a social, economic and cultural formation. (B)

**7033 Postmodernism and Postmodernity. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies in postmodernism as a literary and cultural movement and/or in postmodernity as a social, economic and cultural formation. (B)

**7034 Postcolonialism and Globalization. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies in postcolonialism and globalization as literary and cultural movements and/or as social, economic and cultural formations. (B)

**7035 Cyberculture. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies in cyberculture as a literary and cultural movement. (B)

**7041 Early American Literatures and Cultures. Cr. 4 (Max. 8)**

Prereq: graduate standing. Studies in the literatures and cultures of the Americas from their beginnings to and/or into the nineteenth century. (B)

**7042 Nineteenth-Century American Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. 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. (B)

**7043 Twentieth-Century American Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. 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. (B)

**7044 African-American Literature and Culture. Cr. 4 (Max. 8)**

Prereq: graduate standing. Advanced study of topics in African-American literature. (B)

**7045 Ethnic American Literatures and Cultures. Cr. 4 (Max. 8)**

Prereq: graduate standing. Study of the varieties of ethnic literature and culture in the Americas. (B)

**7046 Comparative American Literatures and Cultures. Cr. 4 (Max. 8)**

Prereq: graduate standing. Stud of the literatures and cultures of the Americas from a comparative perspective. (B)

**7051 Introduction to Film and Media Studies. Cr. 4 (Max. 8)**

Prereq: graduate standing. Historical and theoretical introduction to film and media studies. (Y)

**7052 Film and Media History. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of the historical development of film and media studies. (B)

**7053 Film and Media Genres. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of the genres of film and media studies. (B)

**7054 Cinematic Authorship. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of the concepts of cinematic authorship and/or study of significant figures exemplifying such authorship. (B)

**7055 Global Cinema and Media. Cr. 4 (Max. 8)**

Prereq: graduate standing. Instruction in cinema and media studies from and as a global phenomena, and/or study of cinema and media in a global perspective. (B)

**7056 Comparative Media. Cr. 4 (Max. 8)**

Prereq: graduate standing. Instruction in media from a comparative perspective, including but not limited to film, digital, visual, and auditory media. (B)

**7061 Rhetorical Theory. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of major rhetorical theories in the field of composition. (B)

**7062 Designing Research in Composition and Rhetoric. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of major rhetorical theories in the field of composition. (B)

**7063 Historical Studies in Composition and Rhetoric. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of historical approaches to field of composition and rhetoric. (B)

**7064 The Teaching of Writing. Cr. 4**

Prereq: graduate standing. Survey of historical approaches to the field of composition and rhetoric. (Y)

**7065 Writing Technologies. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of major rhetorical theoretical issues related to writing and technology. (B)

**7066 Writing in Multiple Settings. Cr. 4 (Max. 8)**

Prereq: graduate standing. Survey of research into writing in specific settings such as urban and/or rural sites, workplaces, communities and organizations, or classrooms. (B)

**7100 Studies in Old English. Cr. 3-4 (Max. 12)**

Prereq: graduate standing; ENG 5140 or 6100 or equiv. Selected topics such as Beowulf, poetry of the Exeter Book, gnomic literature, saints' lives. Topics to be announced in the Schedule of Classes. (I)

**7710 Advanced Studies in Linguistic Structure. (LIN 7710) Cr. 4 (Max. 12)**

Prereq: graduate standing. Current issues in linguistic theory, including problems in phonology, morphology, syntax, formal semantics; also included are grammatical organization and the interrelationships among components, constraints on rules, and linguistic metatheory. Topics to be announced in the Schedule of Classes. (I)

**7720 Advanced Studies in Language Use. (LIN 7720) Cr. 4 (Max. 12)**

Prereq: graduate standing. 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. (I)

**7770 Discourse Analysis. (LIN 7770) Cr. 4 (Max. 12)**

Prereq: graduate standing. 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. (B)

**7800 Seminar in Creative Writing. Cr. 4 (Max. 8)**

Prereq: graduate standing. 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. (Y)

**7990 Directed Study in English. Cr. 1-8 (Max. 8)**

Prereq: written proposal submitted to graduate officer in preceding semester; written consent of advisor and graduate officer. Advanced work for superior English majors whose program of study cannot be adequately met by scheduled classes. (T)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: written consent of advisor. (T)

**8001 Seminar in Literary and Cultural Studies. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in literary and cultural studies. Topics to be announced in the Schedule of Classes. (B)

**8002 Seminar in Literary and Cultural Studies Before 1700. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in literary and cultural studies before 1700. Topics to be announced in the Schedule of Classes. (B)

**8003 Seminar in Literary and Cultural Studies: 1660-1914. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in literary and cultural studies between 1660 and 1914. Topics to be announced in the Schedule of Classes. (B)

**8004 Seminar in Literary and Cultural Studies After 1870. Cr. 4 (Max. 8)**

Prereq: doctoral standing or written consent of graduate advisor. Advanced special topics in literary and cultural studies after 1870. Topics to be announced in Schedule of Classes. (B)

**8005 Seminar in American Literatures and Cultures. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in American literatures and cultures. Topics to be announced in the Schedule of Classes. (B)

**8006 Seminar in Film and Media Studies. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in film and media studies. Topics to be announced in the Schedule of Classes. (B)

**8007 Seminar in Composition Studies. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in composition studies to be announced in the Schedule of Classes. (B)

**8008 Seminar in Theory. Cr. 4 (Max. 8)**

Prereq: doctoral standing and written consent of graduate advisor. Advanced special topics in theory to be announced in the Schedule of Classes. (B)

**9999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: written consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: ENG 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ENG 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: ENG 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ENG 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: ENG 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ENG 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in ENG 9991- ENG 9994. Offered for S and U grades only.



# Geology

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## *Professor*

Mark Baskaran

## *Associate Professor*

Jeffrey L. Howard, Lawrence Lemke

## *Assistant Professor*

Sarah J. Brownlee

## *Assistant Professor, Research*

Edmond van Hees

## Master of Science with a Major in Geology

The Master of Science with a major in Geology consists of advanced studies that are designed to prepare the student to assume a position of responsibility as a professional geologist; or to enter a program leading to the doctor of philosophy in geology or a related discipline at another university. The Master of Science in geology is designed to prepare the student with special training in the environmental aspects of this discipline in keeping with the urban setting of Wayne State University. Students receiving the degree of Master of Science in geology will be especially prepared to work in a capacity that deals with or provides solutions to environmental problems in which an intimate relationship between the environment and earth science is an important factor.

The master's degree program involves the rigorous, in-depth study of major concepts pertaining to the earth, and the techniques used to study them. Entrance into the program assumes a firm foundation in the basic and elemental concepts of geology.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, candidates are required to have an undergraduate major in geology, or a strong background in geology supported by courses in related sciences, and a grade point average of at least 3.0 in the major. Prerequisite study should include many of the following courses: mineralogy, petrology, sedimentation, geomorphology, environmental geochemistry, and structural geology, plus a course in any two of the following fields: paleontology, geological site assessment, and geophysics. Six or more credits in field geology or the equivalent is also required. Two semesters of calculus, a year of chemistry and a year of physics are also necessary. A reading knowledge of French, German or Russian is strongly recommended but not required. Deficiencies in prerequisites may be made up concurrently with graduate work.

The verbal and quantitative parts of the Graduate Record Examination are required for admission to the graduate program, and the applicant must file three personal letters of recommendation before acceptance.

Students transferring from other fields should make an appointment with the Graduate Officer or the Department Chairperson who will review the applicant's background and make recommendations regarding the graduate program.

**DEGREE REQUIREMENTS:** The master's degree is offered by this department only under the following option:

**Plan A:** *Thirty-two credits including an eight credit thesis.*

Students must complete twenty-four credits in graduate course work from the following courses: GEL 5000, 5120, 5150, 5450, 5510, 6400 and 6500. If additional credits are required, then, courses may be selected from other graduate courses in chemical and/or civil engineering, or graduate courses in chemistry or physics. Graduate courses in disciplines other than geology require the approval of the thesis advisor and the graduate committee. Eight credits in thesis (GEL 8999) are also required. All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

The graduate program may be modified by the Geology Department to conform to the needs of individual candidates. The eight thesis credits must be in geology, but the thesis credits will not be counted as constituting part of the nineteen credits in Geology course work.

**Candidacy** for the Master's degree is established by submitting an acceptable Plan of Work to the Graduate Officer of the College of Liberal Arts and Sciences. This plan must be submitted and approved by the College by the time twelve graduate credits have been earned. Once candidacy is established, the student, in consultation with his/her advisor and the Geology Department graduate officer, will select the thesis committee. The committee will be comprised of a minimum of three members of the graduate faculty with the student's advisor serving as one member and committee chairperson. Two of the three members of the committee (including the advisor) must be from the Department of Geology. The third member may be from another department if this third member will be making a significant contribution to the applicant's course work and/or thesis study.

**Cognate Requirements:** Although there are no cognate courses required for the Master of Science degree, geology majors should consult their advisor regarding cognate courses which will be of value to their particular program. Depending on interests and future goals, courses in mathematics, physics, chemistry, and computer science, and especially those in chemical and civil engineering will be of particular value.

## Assistantships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

A limited number of graduate teaching assistantships may be available for academically superior students. Their availability can be ascertained by writing to the Geology Department graduate office.

## GRADUATE COURSES (GEL)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5000 Geological Site Assessment. Cr. 4**

Prereq: GEL 1010 or GEL 1000. Geologic methods for Phase I Environmental Site Assessments. Application of geostatistics to site characterization. (B)

**5030 Earth Science for Educators. Cr. 4**

Open only to middle or high school teachers. Review of all major earth science concepts including: physical geology, oceanography, meteorology and astronomy. Material Fee as indicated in the Schedule of Classes. (I)

**5120 Environmental Geochemistry. Cr. 4**

Prereq: GEL 1010 and two semesters of college chemistry or equivalent. 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. Material Fee as indicated in the Schedule of Classes. (B)

**5150 Soils and Soil Pollution. Cr. 4**

Prereq: GEL 1010, CHM 1220 and 1230, CHM 2280 and 2290, or consent of instructor. Physical, chemical and mineralogical properties and classification of soils. Behavior of pollutants in soils and methods for reclamation. (S)

**5200 Oceanography for Educators. Cr. 4**

Open only to middle- or high school teachers. Origin of the ocean basins; ocean currents, waves and tides; life in the oceans and marine ecology; marine resources and pollution. (B)

**5450 Hydrogeology. Cr. 4**

Prereq: GEL 1010 or consent of instructor; MAT 2010 or equiv. Characteristics and behavior of groundwater in earth materials. Groundwater geology of southeastern Michigan. Water well technology and methods for exploration. (B)

**5510 Environmental Fate and Transport of Pollutants. Cr. 4**

Prereq: CHM 1220, 1230, 1240, 1250, or equiv.; MAT 2010 or equiv. Basic principles of chemical behavior in the environment; sources, fate, and transport of contaminants. (F)

**6210 Current Topics in Environmental Sciences. (C E 6210) Cr. 3**

Prereq: PHY 2130/2140 or 2170/2180; CHM 1220 and 1230; GEL 1010 or C E 4210; and BIO 1500; or consent of instructor. Introductory course for senior undergraduate and graduate students in environmental science/engineering and geology. Emphasis on effects of environmental changes on human society. (B:W)

**6400 Nuclear Geology. Cr. 4**

Prereq: PHY 2130/2140 or PHY 2170/2180; CHM 1220 and CHM 1230 and GEL 1010; or equivs. Introduction to various physical and chemical age-dating methods applied to geological and cosmological objects. (B)

**6500 Economic Geology. Cr. 4**

Prereq: GEL 2130, 3160, 3300, 3400. May require passport card. Geology, tectonic setting and genesis of metallic and nonmetallic mineral and hydrocarbon deposits. Resource economics and environmental issues related to resource extraction. Check with instructor for field trip destination; field trip to Canada frequently part of course. (B)

**7990 Directed Study in Geology. Cr. 2-8 (Max. 8)**

Prereq: consent of instructor, advisor, and graduate officer. (T)

**7997 Research in Geology. Cr. 3-4 (Max. 8)**

Prereq: consent of instructor and advisor. Independent work in laboratory or field. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

# History

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*Distinguished Professor*

Ronald Aronson

*Professors*

John J. Bukowczyk, Elizabeth V. Faue, Charles K. Hyde, Marc W. Kruman, Francis Shor, David Weinberg

*Associate Professors*

Eric Ash, Jorge China, José Cuello, Liette Gidlow, Hans Hummer, Janine Lanza, Osumaka Likaka, Elizabeth Dorn Lublin, William Lynch, Andrew Port, Aaron Retish, Marsha Richmond, Sandra F. VanBurkleo

*Assistant Professors*

Denver Brunsman, Alexander Day, Peter Friedlander, Danielle McGuire, Kidada Williams

*Emeriti Distinguished Professors*

Philip P. Mason, Melvin Small

*Emeriti Professors*

Effie K. Ambler, William Brazill, Tilden Edelstein, Edwin Hall, Christopher H. Johnson, Harry Magoulias, Alan Raucher, Monica Schuler, Samuel F. Scott

*Emeriti Associate Professors*

Stanley Shapiro

## Graduate Degrees and Certificates

*MASTER OF ARTS with a major in History*

*JOINT MASTER OF ARTS with a major in History and a Juris Doctorate*

*JOINT MASTER OF ARTS with a major in History and a Master of Library and Information Science*

*JOINT MASTER OF ARTS with a major in History and a Master of Education in Social Studies Education*

*DOCTOR OF PHILOSOPHY with a major in History and specializations in Europe, America, Labor, Gender, Asia, Africa, Science and Technology, and World History*

*GRADUATE CERTIFICATE in World History (Bridge Program)*

*GRADUATE CERTIFICATE in Archival Administration*

The graduate program in history offers advanced education for qualified students who wish to develop the analytical and research skills appropriate to the study of history. Basic to all graduate programs in this discipline is an emphasis upon the location and classification of historical evidence, the interpretation of this evidence, and its synthesis in written and oral forms. The purpose of historical research and writing is to advance understanding of the past, to place the problems of the contemporary world in historical perspective, and to furnish insight about the future.

Advanced degrees in history serve several audiences, chief among them being those intent upon a teaching career at the secondary,

junior college or university level; those interested in employment in government research, as foreign service officers, or in the management of archival resources and public and private historical agencies; and those who wish to study history as a means of understanding contemporary society and social issues. Private sector businesses and institutions consider a history degree, because of its emphasis on reading, writing, and analytical thinking, to be one of the more valuable for their generalists.

Both the M.A. and the Ph.D. programs provide sufficient flexibility to meet the professional needs of these various interests at differing levels of achievement. All M.A. students must show mastery of their subject matter and demonstrate an ability to do basic historical research. Attainment of the Ph.D. requires the ability to use such research tools as statistics and foreign languages, as well as extensive mastery of a series of historical fields and a demonstrated capacity for original research. The doctoral dissertation is the culmination of the historian's training and constitutes an enlargement of our knowledge and understanding of history. Normally one and one-half years of study will be required for the completion of the M.A.; fulfillment of all requirements for the Ph.D. will usually involve four years of full-time study beyond the Master of Arts degree.

## Joint Degree Programs

A joint degree is one in which some courses may be taken for credit applicable to both degrees. The Department administers several joint-degree graduate programs. A joint J.D./M.A. degree program is offered in cooperation with the Law School. A joint M.A./M.L.I.S. program is offered in conjunction with the Master of Library and Information Science program. Most recently, the Department has established a joint M.A./M.Ed. with the College of Education. Additionally, the Department participates in a graduate certificate program in archival administration in cooperation with the Walter P. Reuther Library of Labor and Urban Affairs and the Master of Library and Information Science Program.

## Master of Arts with a Major in History

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Earning a graduate degree is an undertaking which requires a considerable commitment of time and financial resources. The Department of History expects applicants to its graduate program to arrive well-prepared to undertake this rigorous course of study. Accordingly, the following application deadlines posted by the University are strictly adhered to.

Admission to the Fall Term - February 1

Admission to the Winter Term - November 1

Admission to the Spring/Summer Term - March 15

The Department normally considers only applicants whose undergraduate grade point is at least 3.00 overall and at least 3.25 in a minimum of eighteen semester credits in history and related subjects at the advanced undergraduate level. Applicants should have or be in the process of acquiring relevant foreign language preparation to enter the area in which they wish to study. The Department requires that all applicants submit a letter of intent, a research paper as evidence of writing skills, a copy of scores from the Graduate Record Exam general test, at least two letters of recommendation from former instructors, and provide copies of transcripts from each college or university previously attended.

**DEGREE REQUIREMENTS:** Candidates for the master's degree in history must complete a total of thirty-five credits under Plans A, B, or C as outlined below. All students must take History 7830 (Methods and Research in History) during the first year in the program and, regardless of which Plan they pursue, all students must complete at least two 8000-level seminars. Course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 36 and 279, respectively.

**Plan A:** Twenty-seven credits in graduate course work, of which at least twenty-two must be taken in history, plus an eight credit thesis.

**Plan B:** Thirty-two credits in graduate course work, including at least twenty-seven credits in history, plus a three credit essay.

Under *Plans A and B*, the student must 1) complete course work in two fields of history (for fields, consult the *Departmental Graduate Handbook*); 2) complete a minimum of five courses numbered 7000 or above, exclusive of the thesis (HIS 8999) or essay (HIS 7999) (HIS 7990, Directed Study, will count toward the four-course requirement only if taken for more than two credits); 3) complete two graduate seminars numbered 8000 or above; and 4) pass a final oral examination on the thesis or essay and graduate course work.

**Plan C:** Thirty-five credits in graduate course work, including at least thirty credits in history, with a minimum of eighteen credits in courses numbered 7000 or above and two 8000-level seminars. Upon completion of course work, Plan C students must pass a comprehensive written examination and a one-hour oral examination.

**Candidacy** must be established by filing an official Plan of Work with the Department when twelve credits have been earned.

## History (M.A./J.D. Joint Degree Program)

A joint degree is one in which some courses may be taken for credit applicable to both degrees. The joint degree program in law and history leads to the receipt of a J.D. from the Law School and an M.A. from the History Department of the College of Liberal Arts and Sciences. Law students may apply to the History Department for admission to the M.A. program, and upon admission may enroll in history courses after successful completion of their first year of legal studies. In the M.A. program, students may focus their studies on chronological history, including Roman, Western European and American backgrounds of law; on subjects related to specific areas of law practice such as labor, business or political history; or on the historical context of the lawyer's role in public policy making in domestic and international affairs. The joint degree program can be completed in three-and-one-half to four years of full-time study. A brochure more fully describing the joint degree program in law and history is available from the History Department or the Law School.

## History (M.A./M.L.I.S. Joint Degree Program)

A joint degree is one in which some courses may be taken for credit applicable to both degrees. Students who enroll in the joint program will earn both the M.A. in History and the M.L.I.S. Graduates will increase their job market potential and be prepared to enter a new workforce that is capable of appraising and describing historical records, creating websites, and preserving electronic documents. Applicants to this fifty-seven credit program must be admitted to both the Department of History and the Library and Information Science master's degree programs. A brochure more fully describing the joint degree program in law and history is available from the History Department or the M.L.I.S. program.

## History (M.A./M.Ed. Joint Degree Program)

A joint degree is one in which some courses may be taken for credit applicable to both degrees. Students who enroll in the joint program will earn both the M.A. in History and the M.Ed. in Social Studies Education. Graduates will increase their job market potential by achieving the "highly qualified" ranking described under both The No Child Left Behind Act of 2001 and the HOUSSE program. Additionally, graduates will be qualified for meeting the demand for teaching Advanced Placement courses because of their increased background in the content area. Applicants to this fifty-two credit program must be admitted to both the Master of Education program in Social Studies Education and to the Master of Arts program in History and must hold a teaching certificate in secondary education. A brochure



more fully describing the joint degree program in law and history is available from the History Department or the College of Education.

## Bridge Graduate Certificate in World History

This Certificate is oriented to the interests of history teachers and those training to become history teachers who wish to learn world historiography and gain the ability to survey regional histories and transnational themes crucial to teaching world history successfully. It provides graduate-level credentials in an area of growing demand at both the secondary and post-secondary levels.

As a bridge program this Graduate Certificate allows students to apply all of their coursework for the Certificate to the Master of Arts with a Major in History if they decide to pursue that degree after completing the Certificate.

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Students must hold a baccalaureate degree from an accredited college or university, possess a grade point average of 3.0 or higher, and demonstrate at least a 3.25 grade point average in a minimum of eighteen semester credits in history and related subjects at the advanced undergraduate level.

**CERTIFICATE REQUIREMENTS:** The certificate requires fifteen credits of graduate-level course work including one three-credit core course — HIS 8310, Seminar in World History — and twelve credits of courses including three continental areas chosen from: Africa, Asia, Latin America, Middle East, and Europe. One transnational course (i.e. citizenship, constitutional and legal history, gender, migration and ethnic, international relations, labor, and urban) may be taken in lieu of one in the continental distribution selections. A list of courses available to Certificate students is available from the Department. Students must maintain a minimum 3.0 grade point average and complete the Certificate within three years.

## Graduate Certificate in Archival Administration

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

**CERTIFICATE REQUIREMENTS:** Students may earn a certificate in archival administration by completing a fifteen-credit program either within a regular master's or doctoral degree program or as a stand-alone certificate program. No more than nine credits may count toward both the certificate and the graduate degree. The certificate program requires successful completion of two core courses and nine credits from the list of elective courses below.

### *Core Courses*

HIS 7840 -- Archival Administration (LIS 7710): Cr. 3  
LIS 7685 -- Practicum in Archives (HIS 7685): Cr. 2-3

### *Electives Courses*

HIS 7860 -- Oral Hist.: Meth. for Resch. (LIS 7770) (ANT 6360): Cr. 3  
HIS 7880 -- Administration of Historical Agencies (LIS 7885): Cr. 3  
HIS 7890 -- Admin. and Preservation of Visual Coll. (LIS 7730): Cr. 3  
LIS 6780 -- Intro. to Records & Information Mgt. (HIS 6780): Cr. 3  
LIS 7740 -- Archives & Libraries in the Digital World (HIS 7745): Cr. 3  
LIS 7750 -- Intro. to Archival & Library Conservation (HIS 7810): Cr. 3  
LIS 7780 -- Electronic Archives (HIS 7820): Cr. 3

## Doctor of Philosophy with a Major in History

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Earning an advanced graduate degree requires considerable commitment of

time and financial resources. The Department of History expects applicants to its graduate program to commence study well-prepared to undertake this rigorous coursework sequence. Accordingly, the application deadline of February 15 is strictly adhered to.

The Department normally considers only applicants whose prior g.p.a. is at least 3.00 overall and at least 3.25 in a minimum of eighteen semester credits in history and related subjects. While attainment of an M.A. in History is not required of the doctoral applicant per se, the Graduate Committee will be looking for a strong background in history comparable to those holding the M.A. in this discipline in all doctoral applicants.

### REQUIRED ADMISSIONS DOCUMENTS:

1. Formal Application.
2. Application fee.
3. All transcripts from all colleges and universities previously attended.
4. GRE scores from the general exam.
5. A letter of intent that outlines career goals and the area of study the applicant wishes to pursue.
6. A research paper as evidence of writing and research skills.
7. At least three letters of recommendation from former professors.

The Department of History coordinates all materials for the doctoral admissions application process. Any items that are not submitted online should be sent directly to the Department's Director of Graduate Studies.

Admission to the doctoral program is considered only once a year with a deadline of February 15 for the submission of all materials for admission to the immediate following fall term. The Graduate Committee meets in early March to consider all doctoral admissions applications and all graduate funding decisions. Applicants will be notified by early April of their admission status.

**DEGREE REQUIREMENTS:** The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree. The M.A. in History earned at WSU may count for thirty-five of these; but only thirty credits in post-bachelor's programs may be transferred from another institution. The total ninety credits must include:

1. History 7830, Methods and Research in History, or its equivalent.
2. A minimum of four 8000-level research seminars, including one advanced readings course in the dissertation field.
3. A minimum of thirty credits in coursework numbered 7000 or above.
4. A minimum of forty credits of coursework in History.
5. Eight credits of coursework in a cognate area chosen by the candidate and their advisor.
6. Additional coursework for a total of sixty credits.
7. Thirty credits of dissertation registration.

The final thirty credits of the degree consist of dissertation research and writing. The thirty-credit dissertation registration requirement is fulfilled by the courses HIS 9991, 9992, 9993, and 9994 (Doctoral Candidate Status I, II, III, and IV, respectively), in consecutive academic year semesters. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 36 and 279, respectively. For a detailed description of the program in history, interested students should consult the Department's Graduate Handbook.

**Foreign Language Requirement:** Upon entering the program, students will be expected to offer a plan for satisfying the language requirement. They will be expected to demonstrate a reading knowledge of two languages (or one language, if specialization is in Amer-

ican history) to the appropriate University language department. With permission of the graduate director, a student may substitute certain specific auxiliary skills, such as statistics, for the second language.

**Advisor:** Upon entering the program, students will also be expected to select, in consultation with the Department's director of graduate studies, a faculty member who will serve as the student's advisor, both in general study and with respect to his or her dissertation. In consultation with the advisor, the student will then prepare a Plan of Work listing the courses that will prepare him or her in three fields of history (including a field in which the dissertation will be written), and a related cognate field outside the Department.

**Curricula:** The Department of History offers doctoral level course work in the following geographical-chronological fields: ancient (not for dissertation topic), medieval, early modern Europe, modern Europe, France, Germany, Great Britain, Russia, Africa, America to 1877, and America since 1865. It also offers doctoral level course work in the following topical fields: African-American, American foreign relations, American immigration/ethnic, American constitutional and legal, history of women, archival administration, economic, labor, urban. Students must choose at least two geographical-chronological fields, one of which must be other than American history.

**Admission to Candidacy** requires completion of the following requirements:

1. Filing of an approved Plan of Work with the Graduate School;
2. Satisfactory completion of written and oral qualifying examinations in three history fields. Cognate requirements will be met through satisfactory completion of course work in the cognate.

**Dissertation:** The dissertation is a work of original historical research and presentation on a topic selected by the student with the approval of the student's advisor and accepted as successfully completed by both the advisor and a dissertation committee. Upon completion of the dissertation, the student will be required to make a public lecture presentation-defense and to submit the dissertation for certification to the Graduate School.

## Fellowships and Assistantships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Each year a number of graduate assistantships and fellowships are awarded to qualified graduate students. For information, write the Department's Director of Graduate Studies.

In addition, the History Department offers the following graduate-level departmental awards:

**Alfred H. Kelly Endowed Memorial Award for Graduate Student Research in History:** Annual award of up to \$1000 to a graduate student of any discipline. This award is based on the merits of a research proposal made by the student, and covers research expenses generally not paid by other travel awards.

**Rolf and Jennie Johannesen Endowed Memorial Scholarship:** Annual award worth up to \$500 to undergraduate and graduate students in history, whose research is in either classical civilization or, more broadly, the effects of the classical period on later eras.

**Joe L. Norris Endowed Memorial Scholarship and the Richard D. Miles Endowed Memorial Scholarship:** Annual award up to \$500 to graduate majors who write an outstanding HIS 7830 or 8000-level paper.

## GRADUATE COURSES (HIS)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652

### **5010 Colonial North America. (HIS 7010) 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. (I)

### **5020 Revolutionary America. (HIS 7020) 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. (I)

### **5030 Early American Republic: 1789-1850. (HIS 7030) 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. (B)

### **5040 Civil War and Reconstruction: 1850-1877. (HIS 7040) Cr. 4**

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. (B)

### **5050 The Emergence of Modern America: 1877-1917. (HIS 7050) Cr. 4**

Emphasis on the rise of big business, social and intellectual change, protest movements and government policies. (B)

### **5060 Modern America: 1917-1945. (HIS 7060) Cr. 4**

Analysis of economic and social problems, politics, and government policies. (B)

### **5070 Contemporary American History: 1945 to the Present. (HIS 7070) Cr. 4**

Social, political, intellectual, economic, diplomatic, and cultural trends in the United States since World War II. (Y)

### **5075 The Sixties: Conflict and Change. Cr. 4**

Historical roots of conflicts and changes in what is called the "long Sixties," the period 1955 to 1975, paying special attention to the social movements that addressed issues around race, gender, and war. (W)

### **5090 Constitutional History of the United States from 1937 to the Present. (HIS 7090) Cr. 3**

U.S. constitutional development since the Judicial Revolution of 1937, emphasizing New Deal constitutionalism, dramatic shifts in the role of courts and the executive branch, civil rights movements, and modern rights consciousness. (B)

### **5110 (P S 6050) Class, Race, and Politics in America. (AFS 6100) (SOC 7330) (U P 7030) Cr. 3**

Prereq: senior standing or consent of instructor. Historical and analytic investigation into the role of class and race in American politics. (I)

### **5120 American Foreign Relations to 1933. (HIS 7120) Cr. 4**

United States involvement in the international system from the Revolution through World War I and Versailles. Emphasis on the War of 1812 and the Mexican and Spanish-American Wars. (B)

**5130 American Foreign Relations Since 1933. (HIS 7130) 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. (B)

**5160 Constitutional History of the United States to 1860. (HIS 7160) (LEX 7123) Cr. 4**

Anglo-American constitutional development from European expansion and New World Settlement through the onset of the Civil War. Changing relationship between colonies and imperial center, emergence of revolutionary republic in North America, framing of new constitutional orders, nineteenth-century developments through 1860. (B)

**5170 Constitutional History of the United States from 1860 to 1940. (HIS 7170) (LEX 7124) Cr. 4**

United States constitutional development from the beginning of Civil War through the Judicial Revolution of 1937. Emergence of new constitutional agenda between 1860 and the 1890s. Progressive constitutionalism, changes in relations between branches of government and in the federation, New Deal constitutionalism, and struggles for enfranchisement of blacks and women. (B)

**5190 History of American Social Thought. (HIS 7190) Cr. 4**

Social thought and ideologies from the colonial era to the recent past, including Puritanism, the Enlightenment, Transcendentalism, Darwinism, Pragmatism, and the social sciences; emphasis on major figures and social context. (B)

**5200 Women in American Life and Thought. (HIS 7200) Cr. 3**

Role of women in the development of American society and in women's movements. (B)

**5210 The Peopling of Modern America, 1790-1914: A History of Immigration. (HIS 7210) 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. (B)

**5220 The Changing Shape of Ethnic America: World War I to the Present. (HIS 7220) 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." (B)

**5231 The Conquest in Latin America. (CBS 5231) (HIS 7231) Cr. 3**

Varying perspectives on European conquests in Latin America. (I)

**5235 The Civil Rights Movement. (HIS 5235) (AFS 3230) (AFS 5230) Cr. 3**

Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. (Y)

**5237 The Mexican Revolution. (CBS 5237) (HIS 7237) Cr. 3**

Causes, dynamics, and effects of the Mexican Revolution of 1910-1940. (I)

**5239 Latin American Migration to the United States. (CBS 5239) (HIS 7239) Cr. 3**

Causes, dynamics, and impact of Latin American migration to the United States. (I)

**5241 American Slavery. (HIS 7241) (AFS 5241) (AFS 7241) 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. (Y)

**5251 History of Feminism. (HIS 7251) (W S 7020) 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. (B)

**5280 American Legal History. (HIS 7280) (LEX 7020) Cr. 4**

Non-technical survey of relationships between private law and a developing American society from earliest settlement to the present. Emphasis on evolving conceptions of civil authority and private right, the legal profession, legal education, the law of slavery, and doctrinal developments touching property, labor, women, children, and others. (I)

**5290 (ECO 5490) American Labor History. (HIS 7290) Cr. 4**

Analysis of American workers and unions in the nineteenth and twentieth centuries. (B)

**5330 History of Ancient Greece. (HIS 7330) Cr. 3**

Ancient Greek culture, emphasizing political events, social and economic institutions, cultural achievements. (B)

**5340 History of Ancient Rome. (HIS 7340) Cr. 3**

Institutional and cultural development. (B)

**5360 The Early Middle Ages: 300-1000. (HIS 7360) Cr. 3**

Interaction of Roman, Christian and barbarian elements in the emergence of Europe as a cultural entity between the fourth and tenth centuries. (B)

**5370 The High Middle Ages: 1000-1300. (HIS 7370) Cr. 3**

Economic, social and cultural developments that transformed Western European civilization during the eleventh, twelfth and thirteenth centuries. (B)

**5380 The Renaissance. (HIS 7380) Cr. 3**

Europe in an age of transition between the fourteenth century and about 1530; Italian cultural and intellectual developments within a social and political context. (B)

**5385 History of Christianity to the Reformation. (HIS 7385) Cr. 3**

Survey of Christianity from Jesus to the Reformation. Balanced coverage of Christianity in Europe, Asia, and Africa. (Y)

**5390 Europe in the Age of Reformation. (HIS 7390) Cr. 3**

Protestant and Catholic reformation seen in the context of social, economic, and political conditions of the sixteenth and seventeenth centuries. (B)

**5395 (HIS 5395) Social History of the Roman Empire. (HIS 7395) Cr. 3-4**

Prereq: HIS 1000. Social institutions of the Roman empire, including the family, patronage, slavery, economy, and religion. (Y)

**5400 Early Modern Europe. (HIS 7400) Cr. 4**

Development of modern centralized state; social and cultural changes, including the Enlightenment. (B)

**5407 The Scientific Revolution. (HIS 7407) Cr. 3**

Rise of modern science; major changes in study of astronomy, medicine, physics, mathematics, and other sciences from 1500 to 1700. (B)

**5410 The French Revolution and Napoleon. (HIS 7410) 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. (Y)

**5440 Twentieth Century Europe. (HIS 7440) Cr. 4**

Total war and disillusionment, attempts to restore stability and security, totalitarianism as an answer, more war and reconstruction, a divided Europe, the search for Europe's place in the world. (B)

**5450 The Age of Ideology: Europe in the Interwar Period. (HIS 7450) 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. (Y)

**5460 History of the Holocaust. (HIS 7465) 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. (Y)

**5470 Modern Germany. (HIS 7470) Cr. 3-4**

The history of modern Germany against the background of its tradition and culture. Concentration on the Prussian-Austrian conflict, the emergence of German intellectual life, unification and modernization, and the crises and wars of the twentieth century. (I)

**5480 Nazi Germany. (HIS 7480) 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. (B)

**5490 Russian History through the Revolution. (HIS 7490) Cr. 4**

Development and transformation of state power, with particular attention to those economic and social elements peculiar to Russia. (Y)

**5495 History of the Russian Revolution. (HIS 7495) Cr. 3-4**

The Russian Revolution, including fall of tsarist Russia, reign of the Provisional Government, and establishment of power by the Communist Party. (Y)

**5500 The Soviet Union. (HIS 7500) 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, problems of detente. (Y)

**5530 History of World War I and II. (HIS 7530) Cr. 4**

A military history of the two world wars of the twentieth century. (B)

**5550 Britain 1485-1714. (HIS 7550) Cr. 4**

Impact of religious, political and social change on British people during sixteenth, seventeenth, and early eighteenth centuries. (I)

**5560 History of Modern Britain: 1689-2000. (HIS 7560) Cr. 4**

From the "Glorious Revolution" to the present day; political, economic, intellectual, and social developments, in Britain itself and across the Empire. (B)

**5585 (HIS 3585) Studies in Science, Technology, and Society. Cr. 3**

Open only to graduate students. 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. (W)

**5620 The Rise of the European Working Class: 1750-1850. (HIS 7620) Cr. 3**

The impact of capitalism on peasant society; the transformation of handicraft industry; the emergence of the factory proletariat; class conflict and the working class movement in Europe's revolutionary age. (B)

**5660 France Since 1815. (HIS 7660) Cr. 4**

Struggle between old and new political forces, impact of industrialization, search for freedom with order, effect of total war, problems of decolonialization and European integration, cultural transformations. (Y)

**5730 The History of West Africa. (HIS 7730) Cr. 4**

West African states; Islam and socio-political change; the termination of the Atlantic slave trade; European conquest; West African resistance and the Colonial experience; nationalism and independence. (B)

**5740 History of South Africa. (HIS 7740) Cr. 4**

Historical origins of Apartheid with emphasis on nineteenth and twentieth century, including Dutch and British settlement, African state building, the mineral revolution, European racism, African resistance and nationalism. (B)

**5825 (HIS 3825) Readings in History of Modern China. (ASN 3285) (ASN 5825) Cr. 4**

From early 1600s to the present; political, economic, and social changes. (B)

**5855 (HIS 3855) Readings in History of Pre-Modern Japan. (ASN 3855) (ASN 5855) Cr. 4**

Japanese history from its mythical origins to early nineteenth century; political, economic, social, cultural developments. (B)

**5865 (HIS 3865) Readings in the History of Modern Japan. (ASN 3865) (ASN 5865) Cr. 4**

Japanese history from the early nineteenth century to the present; emphasis on political, economic, and social developments. (Y)

**5875 (HIS 3875) Readings in Women in Japanese History. (ASN 3875) (ASN 5875) Cr. 4**

From ancient times to the present. Reading-intensive course. (B)

**5960 (N E 5000) Globalization, Social History and Gender in the Arabian Gulf. (HIS 7960) 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. (Y)

**5995 Honors Seminar. Cr. 3**

Prereq: consent of chairperson; honors standing in history. (T)

**6000 Studies in Comparative History. Cr. 2-4**

Topics to be announced in Schedule of Classes. (B)

**6005 (N E 3010) Survey of Jewish Civilization and History. (HIS 3010) (N E 6005) Cr. 4**

History of the Jewish people from their biblical origins to the contemporary period. Study of primary documents as a means of understanding how Jews have responded to the challenges of living in both the Diaspora and a Jewish State. (I)

**6010 Studies in American History. Cr. 2-4 (Max. 9)**

Topics to be announced in Schedule of Classes. (Y)

**6025 (HIS 3425) Studies in American Environmental History. Cr. 4**

Open only to graduate students. 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. (F)

**6170 (HIS 3170) Studies in Ethnicity and Race in American Life. (AFS 3170) (AFS 6170) 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"? (B)

**6190 History of American Business. Cr. 3**

Major innovators and leaders as entrepreneurs, as corporate managers, and as business statesmen from colonial era to present. Special attention to relationship, American values, and government policies. (W)

- 6435 (HIS 3435) Studies in Evolution and Its Critics. Cr. 3**  
Open only to graduate students. Key issues in the debates over evolution in the United States from the nineteenth century up to the present. (F)
- 6440 (HIS 3440) Studies in American Medicine in the Twentieth Century. (SOC 3440) 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. (W)
- 6780 (LIS 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. (F)
- 6840 (HIS 3840) Readings in China and the World. (HIS 6840) (ASN 3840) (ASN 6840) (CHI 3840) (CHI 6840) Cr. 4**  
History of China as it has interacted with the world over the last two thousand years. Focus on global flow of trade goods, ideas and ideologies, religions and people. (Y)
- 7010 (HIS 5010) Readings in Colonial North America. Cr. 4** (I)
- 7020 (HIS 5020) Readings in Revolutionary America. Cr. 4** (I)
- 7030 (HIS 5030) Readings in the Early American Republic: 1789-1850. Cr. 4** (B)
- 7040 (HIS 5040) Readings in the Civil War and Reconstruction: 1850-1877. Cr. 4** (B)
- 7050 (HIS 5050) Readings in the Emergence of Modern America: 1877-1917. Cr. 4** (B)
- 7060 (HIS 5060) Readings in Modern America: 1917-1945. Cr. 4** (B)
- 7070 (HIS 5070) Readings in Contemporary American History: 1945 to the Present. Cr. 4** (Y)
- 7090 (HIS 5090) Readings in the Constitutional History of the United States from 1937 to the Present. Cr. 3** (B)
- 7120 (HIS 5120) Readings in American Foreign Relations to 1933. Cr. 4** (B)
- 7130 (HIS 5130) Readings in American Foreign Relations Since 1933. Cr. 4** (Y)
- 7160 (HIS 5160) Readings in the Constitutional History of the United States to 1860. (LEX 7123) Cr. 4** (F)
- 7170 (HIS 5170) Readings in the Constitutional History of the United States from 1860 to 1940. (LEX 7124) Cr. 4** (W)
- 7190 (HIS 5190) Readings in History of American Social Thought. Cr. 4** (B)
- 7200 (HIS 5200) Readings in Women in American Life and Thought. Cr. 3** (B)
- 7210 (HIS 5210) Readings in the Peopling of Modern America, 1790-1914: A History of Immigration. Cr. 3-4** (Y)
- 7220 (HIS 5220) Readings in the Changing Shape of Ethnic America: World War I to the Present. Cr. 3-4** (Y)
- 7231 (HIS 5231) The Conquest in Latin America. (CBS 5231) Cr. 3**  
Prereq: graduate standing. Varying perspectives on European conquests in Latin America. (I)
- 7234 (HIS 5234) Readings in Race in Colonial Latin America. (CBS 5234) Cr. 3**  
Prereq: graduate standing. Use of race to organize colonial society in Latin America. (I)
- 7237 (HIS 5237) Readings in The Mexican Revolution. (CBS 5237) Cr. 3**  
Causes, dynamics, and effects of the Mexican Revolution of 1910-1940. (I)
- 7239 (HIS 5239) Readings in Latin American Migration to the United States. (CBS 5239) Cr. 3**  
Causes, dynamics, and impact of Latin American migration to the United States. (I)
- 7240 English Legal History. (LEX 7224) 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. (Y)
- 7241 (HIS 5241) Readings in American Slavery. (AFS 5241) (AFS 7241) 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. (Y)
- 7251 (HIS 5251) History of Feminism. (W S 7020) Cr. 4** (B)
- 7280 (HIS 5280) Readings in American Legal History. (LEX 7280) Cr. 4** (B)
- 7290 (ECO 5490) Readings in American Labor History. (HIS 5290) Cr. 4** (Y)
- 7330 (HIS 5330) Readings in the History of Ancient Greece. Cr. 3** (B)
- 7340 (HIS 5340) Readings in the History of Ancient Rome. Cr. 3** (B)
- 7360 (HIS 5360) Readings in the Early Middle Ages: 300-1000. Cr. 3** (B)
- 7370 (HIS 5370) Readings in the High Middle Ages: 1000-1300. Cr. 3** (B)
- 7380 (HIS 5380) Readings in the Renaissance. Cr. 3** (B)

- 7385 (HIS 5385) Readings in the History of Christianity to the Reformation. Cr. 3**  
Open only to graduate students. Survey of Christianity from Jesus to the Reformation. Balanced coverage of Christianity in Europe, Asia, and Africa. (Y)
- 7390 (HIS 5390) Readings in Europe in the Age of Reformation. Cr. 3** (B)
- 7395 (HIS 5395) Readings in the Social History of the Roman Empire. Cr. 3-4**  
Prereq: HIS 1000. (Y)
- 7400 (HIS 5400) Readings in Early Modern Europe. Cr. 4** (B)
- 7407 (HIS 5407) Readings in The Scientific Revolution. Cr. 3** (B)
- 7410 (HIS 5410) Readings in the French Revolution and Napoleon. Cr. 4** (Y)
- 7440 (HIS 5440) Readings in Twentieth Century Europe. Cr. 4** (B)
- 7450 (HIS 5450) Readings in The Age of Ideology: Europe in the Interwar Period. Cr. 4** (Y)
- 7465 (HIS 5460) Readings in the History of the Holocaust. Cr. 4** (Y)
- 7470 (HIS 5470) Readings in Modern Germany. Cr. 3-4** (I)
- 7480 (HIS 5480) Readings in Nazi Germany. Cr. 3-4** (Y)
- 7490 (HIS 5490) Readings in Russian History through the Revolution. Cr. 4** (Y)
- 7495 (HIS 5495) Readings in the History of the Russian Revolution. Cr. 3-4**  
Offered for graduate credit only. The Russian Revolution, including fall of tsarist Russia, reign of the Provisional Government, and establishment of power by the Communist Party. (Y)
- 7500 (HIS 5500) Readings in the Soviet Union. Cr. 4** (B)
- 7530 (HIS 5530) Readings in the History of World War I and II. Cr. 4** (B)
- 7550 (HIS 5550) Readings in Britain: 1485-1714. Cr. 4** (I)
- 7560 (HIS 5560) Readings in the History of Modern Britain: 1689-2000. (HIS 7560) Cr. 4**  
From the "Glorious Revolution" to the present day; political, economic, intellectual, and social developments, in Britain itself and across the Empire. (B)
- 7620 (HIS 5620) Readings in the Rise of the European Working Class: 1750-1850. Cr. 3** (B)
- 7660 (HIS 5660) Readings in France Since 1815. Cr. 4** (Y)
- 7685 (LIS 7685) Practicum: Archives. Cr. 3**  
Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, LIS 7040, LIS 7710, plus an additional six archival administration credits. Offered for S and U grades only. 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. (T)
- 7730 (HIS 5730) Readings in the History of West Africa. Cr. 4** (I)
- 7740 (HIS 5740) Readings in the History of South Africa. Cr. 4** (B)
- 7745 (LIS 7740) Archives and Libraries in the Digital World. Cr. 3**  
Overview of electronic tools and the role of digital process in libraries and archives. (S)
- 7810 (LIS 7750) 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. (S)
- 7820 (LIS 7780) Electronic Archives. Cr. 3**  
Prereq: LIS 6210. Current trends in electronic resources used in archival administration. (Y)
- 7830 Methods and Research in History. Cr. 3**  
Required of all M.A. candidates. Methods and tools of research and documentation. Use of aids and guides. (F)
- 7840 Archival Administration. (LIS 7710) Cr. 3**  
Basic training in archival methods. (F)
- 7860 Oral History: A Methodology for Research. (ANT 6360) (LIS 7770) Cr. 3**  
Techniques of gathering data from individuals for use in research, classroom teaching, in historical, cultural or other contexts. (S)
- 7870 (LEX 7521) Comparative Legal History. Cr. 3**  
Comparative study of the history of ancient and modern legal systems, with particular regard to possible relationships between law and the social and intellectual contexts in which it has developed. (Y)
- 7880 Administration of Historical Agencies. (LIS 7885) 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. (F)
- 7890 (HIS 7890) Administration and Preservation of Visual Collections. (LIS 7730) Cr. 3**  
Prereq: HIS 7840. Basic course in the fundamentals of administering a visual collection: evaluation, organization, and control of visual collections in archives, librarians, historical agencies, and museums. (W)
- 7960 (N E 5000) Readings in Globalization, Social History and Gender in the Arabian Gulf. (HIS 5960) Cr. 3**  
Open only to graduate students. 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. (Y)
- 7990 Directed Study. Cr. 1-3 (Max. 12)**  
Prereq: written consent of advisor and graduate officer. (T)

- 7998 Internship in Historical Administration. Cr. 3**  
Prereq: consent of graduate director. Offered for S and U grades only. (T)
- 7999 Master's Essay Direction. Cr. 1-3** (T)
- 8005 Seminar in American Historiography. Cr. 3**  
Open only to graduate students. Past and present practices of American historians: their methods and arguments, their choice of chronology, approach and subject. (B)
- 8010 Seminar in Early American History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. From first contact between Europeans and Native Americans through the American Revolution. (B)
- 8020 Seminar in Nineteenth Century American History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. (I)
- 8030 Seminar in Modern American History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. (I)
- 8040 Seminar in the History of the Foreign Relations of the United States. Cr. 3 (Max. 6)**  
Prereq: HIS 7830 or consent of graduate director. (I)
- 8050 (HIS 8050) Seminar in the Constitutional and Legal History of the United States. (LEX 8386) Cr. 3**  
Prereq: HIS 7830 or consent of graduate director. (I)
- 8060 Seminar in North American Labor History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. (B)
- 8075 Seminar in North American Urban History. Cr. 3**  
Prereq: HIS 7830 or consent of graduate director. Research and readings in U.S. and Canadian urban history. (B)
- 8110 (EPS 8530) Seminar in the History of Education. (EHP 7670) Cr. 4**  
Growth and development of American higher education K-16, including events, circumstances, and influential ideas. Emphasis on the relationship between social, political, and economic change and the evolution of education. (Y)
- 8160 Seminar in Comparative Labor History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. (B)
- 8180 Seminar in Immigration History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. (I)
- 8225 Seminar in European Historiography. Cr. 3**  
Open only to graduate students. Readings seminar in European history, to provide a firm grounding in leading concepts, methodologies, and theories of European history. (B)
- 8235 Seminar in Early Modern European History. Cr. 3**  
Prereq: HIS 7830. Historiographical, methodological and epistemological issues in doing research in early modern European history. Readings, discussions, focused research. (B)
- 8240 Seminar in Modern European History. Cr. 3 (Max. 12)**  
Prereq: HIS 7830 or consent of graduate director. (B)
- 8310 Seminar in World History. Cr. 3**  
Open only to graduate students. Concepts, methodologies and theories of world history; readings, discussions, and written critiques of various schools in the field. (B)
- 8320 (LIS 8320) Information Issues and the Digital Environment. Cr. 3**  
Prereq: LIS 6010 and LIS 6080 plus twelve LIS credits or consent of instructor. Fundamentals of production, dissemination, storage, preservation and use of digital records; policy issues. (W)
- 8999 Master's Thesis Research and Direction. Cr. 1-8 (Max. 8)** (T)
- 9900 Teaching History at the College Level. Cr. 1**  
Open only to Ph.D. students. Students meet with graduate director to consider teaching philosophies and strategies; preparation and delivery of a lecture. (Y)
- 9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**  
Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)
- 9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**  
Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.
- 9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**  
Prereq: HIS 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following HIS 9991. Offered for S and U grades only.
- 9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**  
Prereq: HIS 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following HIS 9992. Offered for S and U grades only.
- 9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**  
Prereq: HIS 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following HIS 9993. Offered for S and U grades only.
- 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**  
Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in HIS 9991- HIS 9994. Offered for S and U grades only.

# Linguistics

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Director: Ljiljana Progovac

Web: <http://www.clas.wayne.edu/linguistics>

## Participating Faculty

Jean Andruski, Associate Professor,  
Communication Sciences and Disorders  
Catherine Barrette, Associate Professor,  
Classical and Modern Languages, Literatures, and Cultures  
Ellen Barton, Professor, English  
Eugenia Casiellas-Suarez, Associate Professor,  
Classical and Modern Languages, Literatures, and Cultures  
Stephen Chrisomalis, Assistant Professor, Anthropology  
Walter Edwards, Professor, English  
Lara Jones, Assistant Professor, Psychology  
Haiyong Liu, Associate Professor,  
Classical and Modern Languages, Literatures, and Cultures  
Felecia Lucht, Assistant Professor,  
Classical and Modern Languages, Literatures, and Cultures  
T. Michael McKinsey, Professor, Philosophy  
Geoffrey S. Nathan, Professor, English  
Kate Paesani, Associate Professor,  
Classical and Modern Languages, Literatures, and Cultures  
Ljiljana Progovac, Professor, English  
Martha Ratliff, Professor, English  
Aleya Rouchdy, Professor (Emerita),  
Classical and Modern Languages, Literatures, and Cultures  
Patricia Siple, Associate Professor, Psychology  
Margaret E. Winters, Professor,  
Classical and Modern Languages, Literatures, and Cultures  
Lee Wurm, Associate Professor, Psychology  
Abderrahmane Zouhir, Assistant Professor,  
Classical and Modern Languages, Literatures, and Cultures

## Graduate Degree

### MASTER OF ARTS in 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: (a) linguistics and a language; (b) language structure; (c) language variation and change; (d) language acquisition and processing; and (e) 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.

## Master of Arts in Linguistics

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to the linguistics program must have taken at least one year of a foreign language.

**Candidacy** must be established by the time twelve credits have been earned.

**DEGREE REQUIREMENTS:** The master's degree is offered by the College of Liberal Arts and Sciences as a Plan B master's option requiring a minimum of thirty credits in course work plus a three-credit essay. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

The Master of Arts program consists of a basic core of five general linguistics courses, some of which may be waived if the student has recently completed them as an undergraduate. Students may then select courses from the lists of elective courses: (a) linguistics and a language; (b) language structure; (c) language variation and change; (d) language acquisition and processing; or (e) sociolinguistics and discourse/pragmatics. A master's essay and an oral defense of the essay are required.

Programs are planned in consultation with the linguistics program advisor. To be admitted to candidacy, a coherent Plan of Work, listing both completed and proposed courses, must be submitted to the College by the time twelve credits have been earned.

### Required Courses

LIN 5290 -- Phonology: Cr. 3  
LIN 5300 -- Syntax: Cr. 3  
LIN 5700 -- Introduction to Linguistic Theory: Cr. 3

In addition, all students must take (i) one course in language use and (ii) one seminar. These two requirements may not be satisfied by the same course.

(i) The language use course involves either the analysis of speech data acquired in fieldwork or theories that address language use.

Appropriate courses include:

LIN 5210 -- Arabic Sociolinguistics: Cr. 3  
LIN 5320 -- Language and Societies: Cr. 3  
LIN 5760 -- American Dialects: Cr. 3  
LIN 5770 -- Sociolinguistics: Cr. 3  
LIN 6710 -- Psycholinguistics: Cr. 3  
LIN 6720 -- Topics in Language: Field Methods: Cr. 3  
LIN 6720 -- Topics in Language: Pidgins and Creoles: Cr. 3  
LIN 6720 -- Topics in Language: Pragmatics: Cr. 3  
LIN 6720 -- Topics in Language: Language Variation: Cr. 3  
LIN 7720 -- Advanced Studies in Language Use: Cr. 4  
LIN 7770 -- Discourse Analysis: Cr. 4

(ii) The seminar requirement may be fulfilled by one of the following courses:

LIN 7310 -- Seminar in French Linguistics: Cr. 3  
LIN 7320 -- Seminar in Hispanic Linguistics: Cr. 3  
LIN 7710 -- Advanced Studies in Linguistic Structure: Cr. 4  
LIN 7720 -- Advanced Studies in Language Use: Cr. 4  
LIN 7770 -- Discourse Analysis: Cr. 4

### Elective Courses

The remaining courses are electives chosen in consultation with an advisor. Courses may be chosen from any one or more of the following areas:

#### (a) LINGUISTICS AND A LANGUAGE

Students may complete up to nine credits in advanced language skills or in the linguistics of the chosen language as part of their electives. These credits are to be selected in consultation with an advisor.

#### (b) LANGUAGE STRUCTURE

LIN 5050 -- Advanced Symbolic Logic: Cr. 4  
LIN 5200 -- Modal Logic: Cr. 4  
LIN 5220 -- Introduction to Chinese Linguistics: Cr. 3  
LIN 5230 -- Structure of Arabic: Cr. 3  
LIN 5240 -- Grammar of Chinese: Cr. 3



LIN 5570 -- Philosophy of Language: Cr. 4  
 LIN 5730 -- English Grammar: Cr. 3  
 LIN 6710 -- Psycholinguistics: Cr. 3  
 LIN 6720 -- Topics in Language: Morphology: Cr. 3  
 LIN 6720 -- Topics in Language: Semantics: Cr. 3  
 LIN 6720 -- Topics in Language: Field Methods: Cr. 3  
 LIN 6720 -- Topics in Language: Typology: Cr. 3  
 LIN 7310 -- Seminar in French Linguistics: Cr. 3  
 LIN 7320 -- Seminar in Hispanic Linguistics: Cr. 3  
 LIN 7710 -- Advanced Studies in Linguistic Structure: Cr. 4  
 FRE 6400 -- Introduction to French Linguistics: Cr. 3  
 SPA 6400 -- Introduction to Hispanic Linguistics: Cr. 3

(c) *LANGUAGE VARIATION AND CHANGE*

LIN 5100 -- Languages of Asia: Cr. 3  
 LIN 5320 -- Language and Societies: Cr. 3  
 LIN 5760 -- American Dialects: Cr. 3  
 LIN 5770 -- Sociolinguistics: Cr. 3  
 LIN 6720 (Only 12 credits may be accrued in the following topics courses)  
 LIN 6720 -- Topics in Language: Historical Linguistics: Cr. 3  
 LIN 6720 -- Topics in Language: History of English: Cr. 3  
 LIN 6720 -- Topics in Language: Language Variation: Cr. 3  
 LIN 6720 -- Topics in Language: Typology: Cr. 3  
 LIN 6720 -- Topics in Language: Morphology: Cr. 3  
 LIN 6720 -- Topics in Language: Field Methods: Cr. 3  
 LIN 6720 -- Topics in Language: Language Evolution: Cr. 3  
 LIN 7300 -- Comparative Romance Linguistics: Cr. 3  
 LIN 7310 -- Seminar in French Linguistics: Cr. 3  
 LIN 7320 -- Seminar in Hispanic Linguistics: Cr. 3  
 LIN 7720 -- Advanced Studies in Language Use: Cr. 4  
 FRE 5500 -- History of the French Language (FRE 7500): Cr. 3  
 ITA 6400 -- History of the Italian Language: Cr. 3  
 SPA 7510 -- History of the Spanish Language: Cr. 3

(d) *LANGUAGE ACQUISITION AND PROCESSING*

LIN 5080 -- Phonetics: Cr. 3  
 LIN 5360 -- Normal Language Acquisition & Usage: Cr. 3  
 LIN 5750 -- Theories of Second Language Acquisition: Cr. 3  
 LIN 5760 -- American Dialects: Cr. 3  
 LIN 6710 -- Psycholinguistics: Cr. 3  
 LIN 7010 -- Acoustics of Speech: Cr. 3  
 LIN 7310 -- (FRE 8420) Seminar in French Linguistics: Cr. 3  
 LIN 7320 -- (SPA 8420) Seminar in Hispanic Linguistics: Cr. 3  
 FRE 5200 -- French Phonetics and Pronunciation: Cr. 3  
 PSY 7080 -- Human Cognition: Cr. 3  
 PSY 7440 -- Cognitive Development: Cr. 3  
 PSY 8720 -- Seminar in Cognitive Processes: Cr. 3  
 SLP 5300 -- Introduction to Speech-Language Pathology: Cr. 3  
 SPA 5200 -- Spanish Phonetics: Cr. 3

(e) *SOCIOLINGUISTICS AND DISCOURSE/PRAGMATICS*

LIN 5210 -- Arabic Sociolinguistics: Cr. 3  
 LIN 5320 -- Language and Societies: Cr. 3  
 LIN 5730 -- English Grammar: Cr. 3  
 LIN 5760 -- American Dialects: Cr. 3  
 LIN 5770 -- Sociolinguistics: Cr. 3  
 LIN 6720 -- Topics in Language: Pragmatics: Cr. 3  
 LIN 6720 -- Topics in Language: Language Variation: Cr. 3  
 LIN 6720 -- Topics in Language: Language & Gender: Cr. 3  
 LIN 6720 -- Topics in Language: Historical Linguistics: Cr. 3  
 LIN 7310 -- Seminar in French Linguistics: Cr. 3  
 LIN 7320 -- Seminar in Hispanic Linguistics: Cr. 3  
 LIN 7720 -- Advanced Studies in Language Use: Cr. 4  
 LIN 7770 -- Discourse Analysis: Cr. 4

## GRADUATE COURSES (LIN)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system and signs, see page 652.

**5050 (PHI 5050) Advanced Symbolic Logic. Cr. 4**

Prereq: junior, senior, or graduate standing. 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. (Y)

**5080 (SLP 5080) Phonetics. Cr. 3**

Multisensory study of sounds in the English language, emphasizing acoustic, physiologic, kinesio logic approaches. Material Fee as indicated in the Schedule of Classes. (F,W)

**5100 (CHI 5220) Languages of Asia. (JPN 5220) Cr. 3**

Introduction to major language families in Asia; grammar, sounds, language contacts. (B)

**5200 (PHI 5200) Modal Logic. Cr. 4**

Prereq: PHI 1850 or PHI 1860 or consent of instructor. The logic of necessity, possibility, and other modal notions as they occur in epistemic and deontic contexts. (B)

**5210 (ARB 5210) Arabic Sociolinguistics. (N E 5210) Cr. 3**

No knowledge of Arabic required. Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. (B)

**5220 (CHI 5210) Introduction to Chinese Linguistics. Cr. 3**

No knowledge of Chinese required. Basic elements of Chinese linguistics: sounds, grammar, dialects, language changes. (B)

**5230 (ARB 5230) Structure of Arabic. (N E 5230) Cr. 3**

No knowledge of Arabic required. Survey of historical constitution and theoretical structure of Arabic. (Y)

**5240 (CHI 5230) Grammar of Chinese. Cr. 3**

No knowledge of Chinese required. Basic elements of Chinese grammar; includes question formation, negation, time references, etc. (B)

**5290 (ENG 5710) Phonology. Cr. 3**

Prereq: LIN 5700. 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. (Y)

**5300 (ENG 5740) Syntax. Cr. 3**

Prereq: LIN 5700. The theory of grammatical systems examined through analysis of sentence and word formation in a variety of human languages. Diversity and universals in grammar and theories of syntax. (Y)

**5320 (ANT 5320) Language and Societies. Cr. 3**

Contemporary linguistic anthropologists see language as a form of social action. How this understanding of language in society has evolved: classic works in linguistic anthropology and contemporary studies. Research in language in society. (W)

**5360 (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. (F,S)

**5570 (PHI 5570) Philosophy of Language. Cr. 4**

Prereq: PHI 1850 or PHI 1860 or any philosophy course from the Philosophical Problems group or graduate student in linguistics or consent of instructor. Intensive investigation and discussion of philosophical problems concerning meaning, truth, and the nature of language. (B)

**5700 (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. Introduction to selected disciplinary and interdisciplinary topics: sociolinguistics, pragmatics, typology and universals, communication systems, psycholinguistics, historical linguistics, anthropological linguistics. (Y)

**5720 (ENG 5720) Linguistics and Education. Cr. 3**

Introduction to linguistics with emphasis on applications to education. (Y)

**5730 (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. (Y)

**5750 (ENG 5750) Theories of Second Language Acquisition. (LGL 5750) 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. (Y)

**5760 (ENG 5760) American Dialects. Cr. 3**

Survey of chief social and geographic dialects of American English and introduction to theory of language variation. (I)

**5770 (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. (B)

**6710 (PSY 6710) Psycholinguistics. Cr. 3**

Prereq: graduate standing or undergraduates with a strong psychology or linguistics background. Theory and research in various topics in psycholinguistics, including language development, speech perception and production, and language comprehension. (Y)

**6720 (ENG 6720) Topics in Language. Cr. 3 (Max. 12)**

Topics such as: morphology, semantics, pragmatics, historical linguistics, history of English, language and gender, language and variation, language evolution to be announced in the Schedule of Classes. (Y)

**7010 (SLP 7010) Acoustics of Speech. Cr. 3**

Prereq: SLP 5080, 5090. Acoustic consequences of phonetically-relevant articulatory movements. (I)

**7300 (FRE 7300) Comparative Romance Linguistics. (ITA 7300) (SPA 7300) Cr. 3**

Prereq: graduate major in French, Italian, or Spanish, or consent of Department; French students who have not completed FRE 6400 also require consent of instructor. 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. (B)

**7310 (FRE 8420) Seminar in French Linguistics. Cr. 3 (Max. 6)**

Prereq: FRE 6400 or 7300. Special problems in synchronic and diachronic aspects of the French language. Topics to be announced in the Schedule of Classes. (I)

**7320 (SPA 8420) Seminar in Hispanic Linguistics. Cr. 3 (Max. 12)**

Seminar topics will vary according to the principal divisions of Spanish linguistics: phonology, morphology, lexicography, syntax, and dialectology. Topics to be announced in Schedule of Classes. (I)

**7665 (ANT 7665) Seminar in Linguistic Anthropology. (LIN 7665) Cr. 3**

Prereq: ANT/LIN 5320. Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in the Schedule of Classes. (I)

**7710 (ENG 7710) Advanced Studies in Linguistic Structure. Cr. 4 (Max. 12)**

Current issues in linguistic theory, including problems in phonology, morphology, syntax, formal semantics; also included are grammatical organization and the interrelationships among components, constraints on rules, linguistic metatheory and language change. Topics to be announced in Schedule of Classes. (I)

**7720 (ENG 7720) Advanced Studies in Language Use. Cr. 4 (Max. 12)**

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 Schedule of Classes. (I)

**7770 (ENG 7770) Discourse Analysis. Cr. 4 (Max. 12)**

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 Schedule of Classes. (B)

**7991 (ANT 7991) Directed Study in Linguistics. Cr. 1-9 (Max. 9)**

Prereq: written consent of advisor and graduate officer. Open only to M.A. candidates or Ph.D. applicants. A research problem which requires field work or intensive and systematic reading of original technical literature. (T)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: consent of advisor. (T)

# Mathematics

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Associate Chairperson: Robert Bruner

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Fatih Celiker, Andre Furtado, Rohini Kumar, Kyungyong Lee, Hengguang Li, Tao Mei, Andrew Salch, Jing Shi, Kazuhiko Shinki

## Senior Lecturers

Leonard Boehm, Patricia Bonesteel, Christopher Nazelli, Donald Sherry

## Lecturers

Christopher Leirstein, Daniel Preisler, Sandra Robinson, Shereen Schultz

## Adjunct Associate Professor

Lance K. Heilbrun

## Research Adjunct Professor

Vladimir Chernyak

## Graduate Degrees

*MASTER OF ARTS with a major in Mathematics, Mathematical Statistics, or Applied Mathematics*

*DOCTOR OF PHILOSOPHY with a major in Mathematics and specializations in pure mathematics, applied mathematics and mathematical statistics*

The courses offered by the Department of Mathematics serve several purposes: they supply the mathematical preparation necessary for students specializing in the physical, biological or social sciences, in business administration, in engineering, and in education; they provide a route by which students may arrive at the level of research competency 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.

## Graduate Scholarship

All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279. Degree applicants are expected to inform themselves concerning these regulations and to take the responsibility of conforming to them. Additional requirements for specific graduate degrees in mathematics are explained below.

## Master of Arts Degrees in Mathematics

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

Except for the program leading to the degree of Master of Arts in Applied Mathematics, the entrance requirements for the master's programs in mathematics and statistics include successful completion of twelve semester credits in mathematics beyond sophomore calculus (equivalent to MAT 2010, 2020, 2030, 2250, and 2350); this course work should include advanced calculus and linear or modern algebra. Credit accrued in courses such as the history of mathematics or the teaching of mathematics, in which the study of mathematics itself is not the primary purpose will not be counted toward this requirement. As preparation for graduate study, the Mathematics Department strongly recommends undergraduate course work along the line of option A, described under Bachelor's Degrees in the undergraduate bulletin.

### — With a Major in Mathematics

**DEGREE REQUIREMENTS:** The Master of Arts with a Major in Mathematics is offered under the following options:

**Plan A:** *Twenty-four credits in course work plus an eight credit thesis.*

**Plan B:** *Twenty-seven credits in course work plus a three credit essay.*

**Plan C:** *Thirty credits in course work.*

Completion of these plans must satisfy the following criteria:

1. At least twenty-four credits must be earned in course work from the Mathematics Department. Credits earned toward a thesis or essay in accordance with Plan A or Plan B may be included among these twenty-four credits.
2. Election of Mathematics 5420, 5430, 5600 and 5610, if not previously completed. Election of Mathematics 6500 or 6600, if not previously completed.
3. Election of at least two of the following, if not previously completed: Mathematics 5100, 5220, 5230, 5410, 5530, 5700, 5770, 5800, 5870. These courses represent several areas of applied mathematics.
4. Election of at least one additional mathematics course numbered 6000, or higher, with the exception of Mathematics 7999, 8999 and teacher preparation courses.
5. By the time twelve credits have been earned a Plan of Work, approved by a departmental advisor, should be submitted to the director of the master's program in mathematics. At this time, the Graduate Committee will act on the application for candidacy. The student will not be allowed to take more than twelve credits in the master's program unless candidacy has been established.
6. In the Plan of Work the student will state his or her choice of one of the plans A, B, or C. The choice of plan must be approved by the Graduate Committee.
7. There is a final oral examination for the master's degree. All students in Plan C are required to take this examination. Students in Plan A or B may, upon recommendation of the thesis or essay advi-

sor, be excused from the final oral examination by the Graduate Committee.

8. It is required that the thesis or essay of each student in Plans A or B be presented in a public lecture.

**NOTE:** Candidates for the Master of Arts degree with a major in mathematics or in mathematical statistics are exempt from the requirement of the Graduate School that six credits in the major field must be in courses numbered 7000 and above.

### — with a Major in Mathematical Statistics

The requirements for this degree differ from those for the Master of Arts with a major in mathematics (see above) only in that the three requirements 2, 3, and 4 are replaced by a single one:

2. Election of Mathematics 5420, 5430, 5600, 5610, 5700, 5710, and 5800, if not previously completed. Election of two courses from the group: MAT 5030, 5770, 5830, 5870, 6830, 6840, 6500 or 6600. Mathematics 7700 is recommended.

It is stressed that all other requirements (1, 5, 6 and 7 above) are the same, except that the essay under Plan B must be written in the area of mathematical statistics or probability.

### — With a Major in Applied Mathematics

This degree is designed for students who are interested in applied mathematics or are interested in applying mathematics to areas outside of mathematics (e.g., biology, chemistry, computer science, economics, engineering, geology, medical science, physics, psychology, social science). The program is flexible in that it does not represent the teaching of any fixed body of knowledge. It does require two areas of concentration, one of these being the major in mathematics (pure and applied) with emphasis on the applicable subjects. The minor area is to be either in applied mathematics or in an area outside of mathematics (such as the above) to which the student is interested in applying mathematics. Mathematical methods are emphasized.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants for the program leading to the degree of Master of Arts in Applied Mathematics must have either twelve credits beyond the calculus sequence or knowledge equivalent to Mathematics 2010-2030, 2250, 2350, 5070, 5420, Computer Science 2110 and a good background in some area in which he or she is planning to apply mathematics. A bachelor's degree in mathematics is not required.

**DEGREE REQUIREMENTS:** This program is usually offered as a *Plan B* master's degree option requiring twenty-nine credits of course work plus a three credit essay. However, other master's degree options (see above under Major in Mathematics) may be elected with the approval of the Departmental Graduate Committee. Specific requirements for the degree are as follows:

1. A minimum of thirty-two credits.
2. A minimum of twenty credits in mathematics courses not previously completed and numbered 5030 or above (except courses for teachers). At least four of these credits must be elected from the courses listed in requirement 3 for mathematics major cited above.
3. Each student must declare a minor (e.g., one of the areas mentioned above) in which he or she is planning to apply mathematics, and have at least eight credits in that area in addition to those required above.
4. The entire program of study must be a coordinated one that meets with the approval of the student's academic advisor, who will be assigned upon admission.

Each student in this program will ordinarily be required to write a project-type essay for three credits under the direction of a supervisor in the Mathematics Department and an essay advisor from some

department related to the minor area, both of whom must approve the essay. (If the chosen minor area is in applied mathematics, the advisor in the major area can be the same as the advisor in the minor area.) The selection of advisors and topics must be approved by the Graduate Committee of the Mathematics Department.

## Doctor of Philosophy with a Major in Mathematics

All applicants for the degree of Doctor of Philosophy with a major in mathematics are urged first to study the general University requirements for this degree and to plan their programs so that all those requirements are fulfilled in the proper order and at the proper times. Listed below are the major steps in earning this degree. Specific requirements of the Mathematics Department are included.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Doctoral applicants must have completed a master's degree in mathematics or reached an equivalent level of advancement. The Department Graduate Committee may make exceptions to this rule in cases where unusual ability has been demonstrated. Admission to the doctoral program will be granted only to those whose records indicate an ability to succeed in advanced study and research.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits in course work beyond the bachelor's degree, including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses MAT 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Additional specific requirements for this degree in mathematics are as follows:

**Preliminary Examinations** are two two-hour written tests, covering undergraduate level material in analysis and algebra (from a sophisticated point of view). A student who is admitted to the Ph.D. program must take the Preliminary Examination within the first two scheduled examination sessions after the date of admission. Any delay in taking the examinations must be approved in advance by the Graduate Committee.

**Language Examinations:** Students are expected to show proficiency, at the level of translating mathematical literature, in one modern language other than English. Examiners and exam format will be determined on an individual basis by the Graduate Committee. The language exam must be in French, German, Russian, or Chinese. The examination must be passed before completion of the written qualifying examinations.

**Course Requirements:** In addition to the examinations described above, before advancement to candidacy every student in the Ph.D. program must complete each of the following four courses with a grade of 'B' or better: MAT 7400, 7500, 7600, and 6600.

**QUALIFYING EXAMINATIONS** consist of two sections, a written and an oral examination. A student must begin the written qualifying examination by the end of the third year in the Ph.D. program, and must pass all parts of the examination by the end of the fourth year in the Ph.D. program. All parts of the examination must be passed before a student can advance to Candidacy Status.

**Written Qualifying Examinations** consist of two three-hour parts, a *major* and a *minor* area exam. The examination committee will give the student a list of topics in the student's area of specialization. These topics should both reflect the student's particular research interest and be of sufficient breadth to cover the entire area. The committee will also designate a minor area on which the student will be examined. The minor area is to be supportive of the major area but sufficiently different to avoid compromising the diversity of the total two-part exam.

**Oral Qualifying Examinations:** By University regulations, after passing the written Qualifying Examinations, a student must take an

oral Qualifying Examination; Departmental policy mandates that the exam must be taken within thirty days after certification of passing the written exam. The oral examination committee consists of the written examination committee, and a representative of the Graduate Committee. The oral examination will normally cover material similar to that of the written examinations, but may also include material outside the written examination areas which is deemed relevant to the student's research work.

**Defense of Dissertation:** Candidates must pass a final oral examination covering their research after the candidate's advisor has approved the completed dissertation.

## Fellowships, Assistantships, Scholarships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

A number of graduate assistantships and research fellowships are available for graduate students. Requests for information should be addressed to the Chairperson of the Department of Mathematics.

## GRADUATE COURSES (MAT)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5000 Fundamental Concepts of Mathematics and Proof Writing. Cr. 3

Prereq: MAT 2250 or 2860 or consent of instructor. Not considered a 5000+ level course for undergrad. degree requirements in mathematics; no credit towards graduate degree in mathematics. 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. (F,W)

### 5005 Proof-Writing Workshop. Cr. 1

Coreq: MAT 5000 or consent of instructor. Not considered a 5000+ level course for undergrad. degree requirements in mathematics; no credit towards graduate degree in mathematics. Students work in groups, writing proofs in a variety of mathematical subjects. (S)

### 5030 Statistical Computing and Data Analysis. Cr. 3

Prereq: MAT 2210 or equiv., 2250 or equiv. Computational aspect of statistics for advanced undergraduate and beginning graduate students. Computation of various statistical quantities by use of known statistical packages such as SAS, SPSS or BMD and the interpretation of their output. (B)

### 5070 Elementary Analysis. Cr. 4

Prereq: MAT 2030, and 2250 or 2350. The real numbers; limits; continuity; sequences and series of functions; uniform convergence; power series; differentiation; integration. (T)

### 5100 (MAT 5100) Numerical Methods I. (SCP 7200) Cr. 3

Prereq: MAT 2030, 2250 and CSC 1100 or familiarity with a programming language. 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. (Y)

### 5110 Numerical Methods II. Cr. 3

Prereq: MAT 2250, MAT 2350, or equiv.; and CSC 1000 or familiarity with a programming language. 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. (W)

### 5210 Advanced Calculus. Cr. 4

Prereq: MAT 2250 or consent of instructor. Functions of many variables; limits, continuity; differentiation, mean value theorems; implicit and inverse function theorems; external problems; Lagrange multipliers; fixed-point methods; Taylor series, Fourier series, uniform convergence; improper integrals. (Y)

### 5220 Partial Differential Equations. Cr. 4

Prereq: MAT 5070. Partial differential equations of mathematical physics; method of separation of variables; Fourier series; Sturm-Liouville eigenvalue problems; boundary-value problems; method of eigenfunction expansion; Green functions; solutions by Fourier transform; method of characteristics. (B)

### 5230 Complex Variables and Applications. Cr. 4

Prereq: MAT 5070. No credit after MAT 6600. 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; the Schwarz-Christoffel transformations; potential theory; Fourier and Laplace transforms and applications in differential and integral equations. (B)

### 5280 Methods of Differential Equations. Cr. 3

Prereq: MAT 2350. 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. (B)

### 5350 (PHI 5350) Logical Systems I. (MAT 5350) Cr. 4

Prereq: PHI 1850 or 1860 or 5050 or MAT 5600 or MAT 5420 or consent of instructor; for philosophy graduate students: satisfaction of elementary logic requirement. 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. (B)

### 5390 (PHI 5390) Logical Systems II. (MAT 5390) Cr. 4

Prereq: PHI 5350 or MAT 5350 or consent of instructor. Detailed proofs of Godel's incompleteness results, Tarski's Theorem, and Church's Theorem; formal axiomatic treatment of set theory and selected applications. (B)

### 5400 Elementary Theory of Numbers. Cr. 3

Prereq: MAT 2030 and 2250. 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. (Y)

### 5410 Applied Linear Algebra. Cr. 4

Prereq: MAT 2030 and 2250, or consent of instructor. 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. (B)

**5420 Algebra I. Cr. 4**

Prereq: MAT 2030 and 2250. Only two credits apply after either MAT 6170 or 6180; no credit after both MAT 6170 and 6180. 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). (T)

**5430 Algebra II. Cr. 4**

Prereq: MAT 5420. 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. (T)

**5520 Introduction to Topology. Cr. 3**

Prereq: MAT 2030 and MAT 5000 (or former 4010) or consent of instructor. No credit toward graduate degree in mathematics or statistics. 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. (Y)

**5530 Elementary Differential Geometry and its Applications. Cr. 3**

Prereq: MAT 2030 and 2250. 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. (I)

**5600 Introduction to Analysis I. Cr. 4**

Prereq: MAT 5070 or consent of instructor. Completeness, convergence, compactness, connectedness and continuity in the context of metric spaces; applications to differential calculus. (T)

**5610 Introduction to Analysis II. Cr. 3**

Prereq: MAT 5600. Integration, point-wise and uniform convergence of sequences and series of functions; power series; introduction to analytic functions; Fourier series; possible additional topics. (T)

**5700 Introduction to Probability Theory. Cr. 4**

Prereq: MAT 2030, 2250 or 2350. Only two credits after MAT 2210 or MAT 6150. 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. (T)

**5710 Introduction to Stochastic Processes. Cr. 3**

Prereq: MAT 5700 or consent of instructor. 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. (B)

**5740 The Theory of Interest. Cr. 3**

Prereq: MAT 2020 and 2250. 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 certain professional actuarial examinations. (Y)

**5770 Mathematical Models in Operations Research. Cr. 3**

Prereq: MAT 2030, 2250, and 5700 or consent of instructor. Deterministic and probabilistic mathematical modeling of real-world problems. Linear and nonlinear programming; Markov chains; queuing theory; inventory models; Markov decision processes. (B)

**5800 Introduction to Mathematical Statistics. Cr. 4**

Prereq: MAT 5700. A one-semester course for senior undergraduate and master's degree students. Introduction to basic mathematical theory of statistics. Topics include sample distributions, estimation theory, data analysis and sample statistics, testing hypothesis, two sample cases, analysis of variance, regression analysis, Bayesian inference. (Y)

**5830 Applied Time Series. Cr. 3**

Prereq: probability and statistics equivalent to MAT 5700 and MAT 5800, or consent of instructor. 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. (B)

**5870 Methods of Optimization. Cr. 3**

Prereq: MAT 2350 or consent of instructor. 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. (Y)

**5890 Special Topics in Mathematics. Cr. 3-4 (Max. 12)**

Prereq: MAT 2030, and 2250 or 2350. Material currently of interest to students and faculty. Topics to be announced in Schedule of Classes. (I)

**5990 Directed Study. Cr. 1-4 (Max. 8)**

Prereq: written consent of advisor and chairperson (and of graduate officer for graduate students). Undergraduates who elect this course must be mathematics majors of honors caliber. Content will vary to satisfy needs of individual student. (T)

**5992 Teaching Mathematics in College. Cr. 1**

Required of all graduate teaching assistants in Mathematics Department. Prereq: mathematics graduate student or major with senior standing. Offered for S and U grades only. 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. (F)

**6130 Discrete Mathematics. (MAT 2860) Cr. 3**

Prereq: MAT 2010. No credit after former MAT 1860 or 1870. Foundations of mathematics: logic, sets, functions, sequences. The integers. Matrices. Mathematical reasoning: induction, recursive definitions and recurrence relations. Combinatorics. Graph theory. Boolean algebra. (Y)

**6140 Geometry: An Axiomatic Approach. Cr. 3**

Prereq: MAT 5000 or consent of instructor. Foundations: logic, axiom systems, models; Hilbert's axioms; the parallel postulate; Euclidean geometry; non-Euclidean geometries; hyperbolic geometry; philosophical questions. (Y)

**6150 Probability and Statistics for Teachers. (MAT 2210) Cr. 4**

Prereq: grade of C or better in MAT 1800; 2010 recommended. No credit after MAT 5700. 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. (T)

**6170 Algebra: Ring Theory Through Exploration, Conjecture, and Proof. Cr. 4**

Only two credits after MAT 5420; no credit after MAT 5430. Prereq: MAT 5000 (or former 4010) or consent of instructor. Rings: basic def-

initions; 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. (I)

**6180 Algebra: Group Theory Through Exploration, Conjecture, and Proof. Cr. 3**

Only one credit after MAT 5420. Prereq: MAT 5000 (or former 4010) or consent of instructor. 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. (Y)

**6200 (MAT 6200) Teaching Arithmetic, Algebra and Functions from an Advanced Perspective. (MAE 6200) Cr. 3**

Prereq: MAT 5120, 6170, or 6180 or consent of instructor. 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. (Y)

**6210 Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective. (MAE 6210) Cr. 3**

Prereq: completion of a major in mathematics or secondary mathematics education. 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. (Y)

**6400 Graph Theory. Cr. 4**

Prereq: MAT 5420 or consent of instructor. Basic concepts of graphs and directed graphs; trees; cycles and circuits; connectivity; traversability; planarity; colorability. Further topics from among factorization, line-graph, coverings and independence, graphs and matrices, automorphism groups, enumeration, Ramsey theory, hypergraphs, packing theory, network flows. (B)

**6410 Combinatorics. Cr. 4**

Prereq: MAT 5420 or consent of instructor. Enumeration: the classical theory, principle of inclusion and exclusion, generating functions, the Mobius function; combinatorial designs including Latin squares, difference sets, projective geometries, Hadamard matrices, construction problems; transversal theory; Ramsey's theorem; coding theory; partial orders; lattices. (B)

**6420 Advanced Linear Algebra. Cr. 3**

Prereq: MAT 5430 or consent of instructor. 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. (Y)

**6500 Topology I. Cr. 3**

Prereq: MAT 5610 or consent of instructor. 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. (Y)

**6600 Complex Analysis. Cr. 2-4**

Prereq: MAT 5610 or consent of instructor. Offered for two credits only, if student has taken MAT 5230. Complex differentiation; elementary functions; Cauchy's integral theorem; power series; Laurent expansions; singularities; residue theorem; entire and meromorphic functions; Riemann mapping theorem. (Y)

**6830 Design of Experiments. Cr. 3**

Prereq: MAT 5800. Randomized blocks; Latin and Graeco-Latin squares; factorial designs; confounding; split plot; fractional replication; balanced incomplete blocks. (I)

**6840 Linear Statistical Models. Cr. 3**

Prereq: college courses in probability and statistics equivalent to MAT 5700 and MAT 5800, or consent of instructor. 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). (B)

**7200 Ordinary Differential Equations. Cr. 3**

Prereq: MAT 5420 and 5610 or consent of instructor. 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. (B)

**7210 Partial Differential Equations. Cr. 3**

Prereq: MAT 5420 and 5610 or consent of instructor. 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. (B)

**7220 Advanced Numerical Analysis. Cr. 3**

Prereq: MAT 5100 and MAT 5110; or equiv. 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. (B)

**7230 Finite Element Methods. Cr. 3**

Prereq: MAT 5100, MAT 5070. 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. (B)

**7240 Advanced Partial Differential Equations. Cr. 3**

Prereq: MAT 7210 or consent of instructor. Continuation of MAT 7210. Variety of topics chosen by the instructor. (B)

**7270 Topics in Applied Mathematics. Cr. 3-4 (Max. 12)**

Prereq: consent of instructor. 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. (B)

**7400 Advanced Algebra I. Cr. 4**

Prereq: MAT 5430 or consent of instructor. 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. (B)

**7410 Advanced Algebra II. Cr. 3**

Prereq: MAT 7400 or consent of instructor. Field extensions; finite fields; Galois theory; classical applications of Galois theory; algebraic closure; tensor and exterior algebras; determinants; alternating, quadratic and hermitian forms. (B)

**7470 Topics in Algebra. Cr. 3-4 (Max. 12)**

Prereq: MAT 7410 or consent of instructor. Selected topics from linear algebra; homological algebra; group theory; field theory. Topics to be announced in Schedule of Classes . (I)

**7500 Topology II. Cr. 3**

Prereq: MAT 6500 or consent of instructor. 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. (B)

**7510 Algebraic Topology I. Cr. 3**

Prereq: MAT 5430 and 6500. Homology and its applications including fixed-point theorems; Jordan-Brouwer separation theorem; invariance of domain; CW-complexes; Kunneth theorem. (B)

**7520 Algebraic Topology II. Cr. 3**

Prereq: MAT 7510. Cohomology ring; orientation and duality on manifolds; homotopy theory, Hurewicz theorem. (B)

**7570 Topics in Geometry and Topology. Cr. 3-4 (Max. 12)**

Prereq: MAT 7510 or consent of instructor. Selected topics from geometry and topology; Lie groups, Riemannian and differential geometry. (F,W)

**7600 Real Analysis I. Cr. 3**

Prereq: MAT 5610 or consent of instructor. Lebesgue measure; general measures; measurable functions; integration (monotone and dominated convergence theorems); function spaces; Lebesgue spaces; modes of convergence; product measures; Fubini theorem. (B)

**7610 Real Analysis II. Cr. 3**

Prereq: MAT 7600 or consent of instructor. Differentiation; relationship between differentiation and integration; Radon-Nikodym theorem; Fourier transforms; Hilbert and Banach spaces; selected topics. (B)

**7630 Introduction to Real Harmonic Analysis. Cr. 3**

Prereq: MAT 7600 or consent of instructor. Singular integrals, fractional integrals, interpolation theorems, Sobolev functions, BMO functions, Hardy space theory, Poincare and Sobolev inequalities, LP and Schauder estimates for elliptic PDEs analysis on the Heisenberg groups and Lie groups. (B)

**7670 Topics in Analysis. Cr. 3 (Max. 12)**

Prereq: MAT 7610 or consent of instructor. Topics include: advanced harmonic analysis theory, applications to PDEs, geometric analysis, Fourier analysis, advanced theory of complex variables, analysis on manifolds, advanced PDEs. (Y)

**7700 Advanced Probability Theory I. Cr. 3**

Prereq: MAT 5700 and 7600 or consent of instructor. 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. (B)

**7710 Advanced Probability Theory II. Cr. 3**

Prereq: MAT 7700 or consent of instructor. Law of large numbers; characteristic functions; limit theorems; random walks; Markov processes; stationary processes; ergodic theory; martingales; stopping times. (B)

**7770 Special Topics in Probability. Cr. 3-4 (Max. 12)**

Prereq: MAT 7710. 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 . (I)

**7810 Advanced Statistics Theory I. Cr. 3**

Prereq: MAT 5610, 5700. 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. (B)

**7820 Advanced Statistics Theory II. Cr. 3**

Prereq: MAT 7810. Continuation of MAT 7810. Topics include regression analysis, linear models, analysis of categorical data, nonparametric statistics, decision theory, and Bayesian inference. (B)

**7870 Topics in Statistics. Cr. 3-4 (Max. 12)**

Prereq: MAT 7810 or consent of instructor. 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 . (B)

**7990 Directed Study. Cr. 1-4 (Max. 12)**

Prereq: written consent of advisor and graduate officer. (T)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: consent of advisor. (T)

**8000 Advanced Topics in Mathematics. Cr. 2-4 (Max. 24)**

Prereq: consent of instructor. Topics to be announced in Schedule of Classes. (Y)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: MAT 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MAT 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: MAT 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MAT 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: MAT 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MAT 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in MAT 9991- MAT 9994. Offered for S and U grades only.



# Nutrition and Food Science

Office: 3009 Science Hall; 313-577-2500  
Chairperson: K-L Catherine Jen  
Academic Services Officer: Debra L. Zebari  
Web: <http://www.clas.wayne.edu/NFS/>

## Professors

Mary Jane Bostick (Emerita), Ahmad R. Heydari, K.-L. Catherine Jen, Leora A. Shelef (Emerita)

## Associate Professor

Pramod Khosla

## Assistant Professors

Diane Cabelof, MariaPontes Ferierra, Smiti Gupta, Yifan Zhang, Kequan Zhou

## Senior Lecturers

Tonia Reinhard, Mary E. Width

## Associates

*Education:* R.J. Gretebeck; *Environmental Health Sciences:* R.F. Novak; *Internal Medicine:* S. Naar-King, A. Prasad; *Obstetrics and Gynecology:* M. Church; *Pathology:* T. Leff; *Pediatrics:* W.K. Koo, J.W. Taub; *Pharmacology/KCI:* Larry Matherly; *Physiology:* J. Dunbar; *Psychiatry:* J. Granneman, R. Mackenzie

## Graduate Degrees

*MASTER OF ARTS with a major in Nutrition and Food Science*

*MASTER OF SCIENCE with a major in Nutrition and Food Science*

*DOCTOR OF PHILOSOPHY with a major in Nutrition and Food Science and specialization in nutrition or food science*

## Master's Degrees in Nutrition and Food Science

**Admission** to these programs is contingent upon admission to the Graduate School; for requirements, see page 18. Successful applicants shall have a minimum grade point average of 3.0. Undergraduate preparation should include basic courses in nutrition and food science. One year of introductory chemistry, and at least one semester each of organic chemistry, anatomy and physiology are required for the M.S. degree; biochemistry and statistics are recommended. Persons lacking a limited number of prerequisites may be admitted conditionally, contingent upon completion of certain courses specified by the graduate committee.

The Graduate Record Examination must be taken prior to, or within six months of, admission.

Upon admission, each student should consult with an advisor, obtain the departmental Graduate Handbook, and prepare a preliminary Plan of Work based on the degree requirements. Academic standards and procedures, including guidelines for essay and thesis preparation and standards for academic performance, are described in the Department's Graduate Handbook.

## DEGREE REQUIREMENTS

**Master of Science with a Major in Nutrition and Food Science:** This degree is offered only as a Plan A master's program requiring thirty-two credits, including an eight-credit thesis based on completion of research study, and eight credits of laboratory course work.

**Master of Arts with a Major in Nutrition and Food Science:** This degree is offered only as a Plan B master's program requiring thirty-two credits, including a three-credit essay. The concentration in food service management includes courses in the School of Business Administration. Contact the Department for information on applicable courses.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

### General Requirements for NFS Master's Programs

NFS 6000 -- Nutritional Biochemistry: Cr. 3

And at least three of the following four courses

NFS 6020 -- Nutrient and Gene Interaction: Cr. 3

NFS 6030 -- Microbiological Safety of Foods: Cr. 3

NFS 7000 -- Nutritional Metabolomics and Bioinformatics: Cr. 3

NFS 7230 -- Nutrition and Physical Performance: Cr. 3

Additional courses depend on whether an M.A. or M.S. are pursued. In addition the M.A. requires completion of a three-credit essay, while the M.S. requires completion of an eight-credit thesis.

### Elective Courses:

Electives are chosen to total a minimum of thirty-two credits

### Master of Science Laboratory Requirement (Eight Credits)

Students should visit the website, <http://www.clas.wayne.edu/NFS/>, for current information.

## — Program for Dietetic Interns

Students accepted into an approved dietetic internship at another institution may pursue either of the above described Plans of Work. Applicants may earn up to four credits in supervised field experience (NFS 5992) in association with the dietetic internship experience; grades for this course will be deferred until satisfactory completion of eight credits of the required component of courses in the Department. In addition, upon approval of the academic advisor and the internship director, qualified students may pursue a directed study (NFS 7990) during an eight week residency program with emphasis on either clinical nutrition, management, or community dietetics.

## Doctor of Philosophy with a Major in Nutrition and Food Science

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants to the program usually have a master's degree in nutrition and/or food science or in a cognate science. Exceptionally well-qualified students may be admitted directly to the doctoral program. A minimum grade point average of 3.5 and the Graduate Record Examination are required. Three letters of reference must be submitted, along with a statement of the applicant's goals and career objectives, and an interview will be conducted with applicants, whenever feasible. Students with a master's degree in nutrition, food science, or related disciplines will have their transcripts evaluated to determine which courses meet the Ph.D. course requirements.

**Candidacy:** In order to become a candidate for the Ph.D. degree, an applicant must successfully complete both a written and an oral qualifying examination.

**DEGREE REQUIREMENTS:** A minimum of ninety graduate credits beyond the baccalaureate is required for completion of the Ph.D. program, distributed as follows:

1. At least thirty credits in Nutrition and Food Science. Twenty-two of these credits are required for all students, and eight credits are selected to fill student needs and interests.
2. Additional courses from other basic science departments including at least one 7000 level course in biochemistry and one graduate course in statistics. Eight credits must be completed outside the Department to form a minor. A list of required and elective courses for doctoral studies is available from the Department Office.
3. Thirty credits in dissertation research, involving independent research under the direction of a faculty member in the Department. The thirty credit dissertation registration requirement is fulfilled by registering for the courses NFS 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.
4. Submission of a satisfactory research dissertation.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

## Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Graduate teaching assistantships are available for well-qualified students working toward the Ph.D. degree. Requests for information should be addressed to the Graduate Director of the Department.

Departmental scholarships are also available. The Parent Endowed Scholarship Fund makes one award per academic year. Other scholarships are contingent upon annual donations.

## GRADUATE COURSES (NFS)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5130 Food Chemistry. Cr. 3**

Prereq: NFS 2130 or equiv., CHM 2220. Study of the chemical constituents of foods, their relationship to the biological and physical properties, and overall food quality. (F,W)

### **5140 Laboratory Techniques in Nutrition and Food Science. Cr. 3**

Prereq: NFS 2130 and NFS 3230 or equiv.; CHM 2220 or equiv. 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. Material Fee as indicated in the Schedule of Classes. (F,S)

### **5160 Functional Foods for Health. Cr. 3**

Prereq: NFS 2030, NFS 2130, and NFS 3230. 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. (W)

### **5200 Advanced Dietetics. Cr. 3**

Prereq: NFS 5230, 5250 with grades of C- or above. . Open only to students in coordinated dietetics program. Development and refinement of dietetic practitioner skills through applications in critical care and specialty practice areas and in community agencies; theoretical basis for individual counseling and group process. Material Fee as indicated in the Schedule of Classes. (F)

### **5220 Community Nutrition. Cr. 2**

Prereq: NFS 2130, NFS 2140, and NFS 3230 with grades of C-minus or above. 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. (F,W)

### **5230 Nutrition and Metabolism. Cr. 3**

Prereq: NFS 3230 with grades of C+ or above. 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. (F,W)

### **5250 Nutrition and Disease. Cr. 4**

Prereq: NFS 5230. 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. May include some field experiences or clinical assignments. Units on team approach to patient care also included. (W)

### **5350 Organization and Management of Food Service Systems. Cr. 4**

Prereq: NFS 2130, 2140, 3230. 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. (F)

### **5360 Management of Nutritional Care and Services. Cr. 3**

Prereq: NFS 5200; coreq: NFS 4220. Recommended for students in coordinated dietetics program. Application of management theory and principles in the three areas of dietetic practice; career planning and professional role development. (W)

### **5992 Supervised Field Experience. Cr. 2-4**

Prereq: consent of instructor. Supervised field experience designed to correlate classroom theory with practical work. (T)

### **6000 Nutritional Biochemistry. Cr. 3**

Open only to graduate students. Prereq: one upper-level undergraduate biochemistry/metabolism course (e.g. NFS 5230). Biochemical effects of nutrients at cellular and organ levels. (F)

### **6020 Nutrient and Gene Interaction. Cr. 3**

Prereq: NFS 5230, NFS 5130, and NFS 5140, or equiv. Open only to graduate students. 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. (B)

### **6030 Microbiological Safety of Foods. Cr. 3**

Prereq: NFS 4150 and NFS 5130. Foodborne 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. (F)

**6130 Food Preservation. (CHE 6130) Cr. 4**

Prereq: BIO 2200 and NFS 5130 or equiv. Fundamentals of food preservation: refrigeration, freezing, thermal processing, dehydration and concentration, salting and smoking, chemical preservation, radiation preservation, fermentation. Material Fee as indicated in the Schedule of Classes. (I)

**6210 Nutrition through the Life Cycle. Cr. 3**

Prereq: graduate standing; NFS 5230. Biological growth and nutritional requirements from fetal stages of development through aging. Nutritional standards in light of current epidemiological data and scientific research. (I)

**6230 Nutrition and Physical Performance. (NFS 7230) Cr. 3**

Prereq: NFS 5230 or equiv. 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. (I)

**6270 Eating Behavior and Body Weight Regulation. (PSY 6270) Cr. 3**

Prereq: BIO 2870. 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. (W)

**6280 Physiology and Nutrition. Cr. 4**

Open only to middle- or high-school teachers. Prereq: teaching certificate; mathematics through algebra. Physiological processes and nutritional basis for health and disease. (S)

**6850 (WI) Controversial Issues. Cr. 2**

Prereq: NFS 5230; consent of instructor; senior standing. Open only to Nutrition and Food Science majors. Topics to be announced in Schedule of Classes. (F)

**6860 (WI) Controversial Issues in Clinical Nutrition: Dietetics. Cr. 2**

Prereq: NFS 5230. Open only to dietetics post bachelor certificate and dietetics B.S. students. Current controversial topics; differing points of view will be debated; discussion of modes of communication of nutrition information. (W)

**7000 Nutritional Metabolomics and Bioinformatics. Cr. 3**

Prereq: NFS 6000, STA 1020. Introduction to and application of the "omics" technologies to nutrition: genomics, proteomics, and metabolomics. Examples and exercises using bioinformatic software for multivariate data analyses. Material Fee as indicated in the Schedule of Classes.. (W)

**7060 Research Problems in Nutrition and Food Science. Cr. 2**

Prereq: consent of instructor. Research orientation: acquaintance with published data, principles of design, methods of collecting data, and basic statistical analysis. (B)

**7140 Advanced Laboratory Techniques in Nutrition and Food Science. Cr. 0-4**

Prereq: graduate standing; BMB 5010 or CHM 5600 or equiv.; NFS 5140. Laboratory techniques in nutrition and food science research, including: animal experimentation, isotope use and quantitation, radioimmunoassay and receptor assays, atomic absorption; chromatography; microbial assays. Material Fee as indicated in the Schedule of Classes. (Y)

**7230 (NFS 6230) Nutrition and Physical Performance. Cr. 3**

Prereq: NFS 5230 or equiv. 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. (F)

**7240 Nutritional Epidemiology. Cr. 3**

Prereq: graduate standing and NFS 3230 or former NFS 2210 or equiv., or consent of instructor. Introduction to epidemiology concepts

and terminology. Emphasis on examining the associations between nutrition and chronic disease. (I)

**7850 Graduate Seminar.**

**Cr. 1 (Master's students, 2 req.; Ph.D. students, 4 req.)**

Offered for S and U grades only. Prereq: consent of instructor. Presentations by graduate students, graduate faculty, and visiting scientists. (F,W)

**7890 Advanced Workshop. Cr. 2-4 (Max. 8)**

Application of theoretical principles to selected areas of nutrition and food science. Topics and prerequisites to be announced in Schedule of Classes . (I)

**7990 Directed Study. Cr. 1-4 (Max. 4)**

Prereq: consent of advisor and instructor. Offered for each area of specialization. (T)

**7991 Lab Rotation. Cr. 1**

Offered for S and U grades only. For new graduate students; students spend at least two weeks in all active research labs. (T)

**7996 Research. Cr. 1-8 (M.S.: MAX 6; PH.D.: MAX 20)**

Prereq: consent of advisor. Offered for S and U grades only. (T)

**7999 Master's Essay Direction. Cr. 1-3 (Max. 3)**

Prereq: consent of advisor. Offered for S and U grades only. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. Offered for S and U grades only. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: NFS 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following NFS 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: NFS 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following NFS 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: NFS 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following NFS 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in NFS 9991- NFS 9994. Offered for S and U grades only.

# Peace and Conflict Studies

Office: 2320 Faculty/Administration Building; 313-577-3453;  
Fax: 313-577-8269

Director: Frederic S. Pearson

Web: <http://www.clas.wayne.edu/pcs/>

## Executive Committee

Lisa Alexander, *Africana Studies*  
Irshad Altheimer, *Criminal Justice*  
Ronald Aronson, *History*  
Elizabeth Barton, *Honors Program*  
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## Graduate Certificate in Peace and Security Studies

The surge of violent disputes, civil disruption, military campaigns, human rights controversies and security concerns worldwide has led to new emphasis on constructive intervention and positive solutions to violent human confrontations. Concern about ethnic tensions, terrorism, border conflict, immigration, weapons flows, alternate security perspectives and violence at home and abroad create a great need for understanding the circumstances and means by which peace is threatened, reinforced, and preserved. On the inter-personal level, issues of abuse, violence and incivility also must be addressed.

Many of these topics now characterize job and career opportunities in a variety of fields. The Graduate Certificate in Peace and Security Studies (GCPSS), offered by the WSU Center for Peace and Conflict Studies, represents a unique added credential, with emphasis on

prevention of violence, peaceful borders and social boundaries, for students undertaking Master's level study or who have completed an accredited graduate degree and are looking forward to work in such areas as social service, diplomacy, education, public service, theology, security management and law enforcement

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The GCPSS program is open to students who have been admitted to a Master's degree program at Wayne State University or at the University of Windsor in Canada, or who have completed an M.A. or equivalent degree in an appropriate discipline at an accredited institution. Applicants who have completed a Master's at a non-North American university will be required to submit two letters of academic recommendation, a writing sample, a personal statement indicating the reasons for pursuing the GCPSS, and evidence, as appropriate, of English proficiency (e.g., TOEFL score). The Director of the Center for Peace and Conflict Studies is the program advisor.

## Certificate Requirements

The GCPSS requires a minimum completion of fifteen credits in peace and security related courses. Up to nine Certificate credits may be applied toward the requirements of a graduate degree.

Two core courses in Peace and Security Studies are required. The option exists, under elective courses, for a community based practicum (applied research) or internship (professional training) experience. An additional six to nine elective credits (depending on whether the practicum/internship is chosen) are to be selected from existing courses in a variety of disciplines. Students in the program will be required to maintain at least a 3.0 g.p.a. in Peace and Security studies core and elective courses. Graduate School time limitations on completion of degree or certificate requirements and regulations on the transfer of credits from other programs will apply. The GCPSS is awarded upon completion of the student's M.A./M.S./M.S.W./M.B.A. (or equivalent degree) requirements along with certificate requirements.

## CORE REQUIREMENTS

PCS 6100 -- Intro. to Grad. Peace and Security Studies (P S 6100): Cr. 3  
PCS 7100 -- Peacemaking: Regional, Technological, and Transnational Perspectives (P S 7100): Cr. 3

## ELECTIVES

Students who select the PCS 7800 may undertake fieldwork either in the form of an original applied research project or internship placement in a relevant international or community agency in the Windsor-Detroit areas or abroad, dealing with issues of political or group violence or reconciliation or with border management. This placement may not be in the student's own place of employment and may not coincide directly with any other internship or practicum in the student's graduate program. The experience must result in a supervisor evaluation and substantial written analysis by the student. PCS 7800 is offered each semester (supervised by members of the PCS Faculty Committee) and if elected should be taken after completing PCS 6100 and 7100.

Additional graduate courses related specifically to peace and/or security areas that could satisfy the elective sequence requirement are listed below. Students should take at least one elective course from each topical area.

## CULTURE, DIVERSITY AND IDENTITY

ANT 6290 -- Culture Area Studies: Cr. 3  
COM 6350 -- Communication, Culture, and Conflict: Cr. 3  
D R 6120 -- Human Diversity and Human Conflict (D R 6350): Cr. 3  
ECO 5410 -- Economics of Race and Gender (ECO 6415): Cr. 4  
HIS 5220 -- The Changing Shape of Ethnic America:  
World War I to the Present (HIS 7220): Cr. 3-4

NE 7100 -- Islam and the West: Cr. 3  
 P S 5740 -- Ethnicity: The Politics of Conflict and Cooperation  
 (AFS 6100) (HIS 5110) (P S 6750) (SOC 7330) (U P 7030): Cr. 4  
 P S 6050 -- Class, Race, and Politics in America: Cr. 3

**VIOLENCE AND ENFORCEMENT**

CRJ 7050 -- Deviant Behavior and Social Control: Cr. 3  
 HIS 5130 -- American Foreign Relations Since 1933 (HIS 7130): Cr. 4  
 HIS 5530 -- History of World War I and II (HIS 7530): Cr. 4  
 HIS 5460 -- History of the Holocaust (HIS 7465): Cr. 4  
 PCS 6050 -- Topics in Peace, Security, and Non-Violence: Cr. 3  
 PCS 7800 -- Graduate Practicum in Peace and Security Studies: Cr. 3  
 P S 5830 -- International Conflict Management: Cr. 4  
 P S 6830 -- Civil War and Conflict Processes: Cr. 3  
 P S 6850 -- International Organizations: Cr. 3

**EQUITY AND JUSTICE**

CRJ 7200 -- Public Policy and Criminal Justice: Cr. 3  
 HIS 7290 -- (ECO 5490) American Labor History (HIS 5290): Cr. 4  
 PHI 5270 -- Philosophy of Law: Cr. 4  
 PHI 5280 -- History of Ethics: Cr. 4  
 P S 5820 -- International Law: Cr. 4  
 P S 5850 -- Human Rights: Cr. 4  
 PSY 7650 -- Social Psychology of Justice, Equity, and Fairness: Cr. 3  
 SOC 5700 -- Seminar in Social Inequality: Cr. 3  
 S W 8445 -- Developing Responsive Human Service Organizations: Cr. 2

Students may also petition to have other courses that conform to these elective categories accepted for elective credit.

**Assessment:** Upon completion of their certificate requirements each student is required to submit a small portfolio of what they consider to be their best work in the program, which will be reviewed as a way of evaluating the program itself.

**GRADUATE COURSES (PCS)**

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

**5000 Dispute Resolution. (CRJ 5994) (P S 5890) (PSY 5710) Cr. 3**

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation practices and theory. (T)

**5010 Community or International Internship. Cr. 3**

Prereq: PCS 2000 and consent of instructor. Offered for S and U grades only. Internship in dispute resolution, research, social service or international agencies in Detroit area, nationally, or abroad. (T)

**5500 (P S 5740) Ethnicity: The Politics of Conflict and Cooperation. (AFS 5740) 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. (Y)

**5999 Special Readings/Research. Cr. 1-4**

Prereq: consent of instructor. Intensive study with faculty member on peace-related topic; may include study abroad projects. For co-majors and non-majors. (T)

**6050 Topics in Peace, Security and Non-Violence. Cr. 3**

Prereq: graduate standing or consent of instructor. Various graduate-level topics in Peace and Security Studies. (I)

**6100 Introduction to Graduate Peace and Security Studies. (P S 6100) Cr. 3**

Survey of the peace and security studies fields at the graduate level. (F,W)

**7100 Peace Making: Regional, Technological, Transnational Perspectives. (P S 7100) Cr. 3**

Prereq: graduate standing or consent of instructor. The prerequisites for peaceful and secure borders and peace settlements. (T)

**7800 Graduate Practicum in Peace and Security Studies. Cr. 3-4**

Prereq: PCS 6100. Open only to graduate peace and security studies students. Field work or applied research in Peace and Security Studies. (T)



# Philosophy

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Chairperson: John Corvino; (email: [j.corvino@wayne.edu](mailto:j.corvino@wayne.edu))  
Web: <http://www.clas.wayne.edu/Philosophy/>

## Professors

Herbert Granger (Emeritus), Lawrence B. Lombard, T. Michael McKinsey,  
Bruce Russell, Robert J. Yanal (Emeritus)

## Associate Professors

John Corvino, Susan Vineberg

## Assistant Professors

Eric Hiddleston, Katherine Kim, Gregory Novack, Lewis Powell

## Senior Lecturer

Sean Stidd

## Graduate Degrees

*MASTER OF ARTS with a major in Philosophy*

*DOCTOR OF PHILOSOPHY with a major in Philosophy*

## Master of Arts with a Major in Philosophy

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Admission requires approval by the admissions officer of the Department. Prerequisites should include courses in logic, value theory, and the history of philosophy. The Graduate Record Examination is required if the student's undergraduate grade point average is below 2.75 for a degree awarded by an accredited institution, or below 3.0 for a degree awarded by a non-accredited institution.

**DEGREE REQUIREMENTS:** The master's degree is offered by this department under the following options:

**Plan A:** Twenty-four credits in course work, including at least two graduate seminars at the 7000-level in philosophy, plus an eight credit thesis.

**Plan B:** Twenty-eight credits in course work, including at least two graduate seminars at the 7000-level in philosophy, plus a four credit essay.

**Plan C:** (open only to prospective doctoral candidates registered in the Ph.D. program) Thirty-two credits of course work, including at least two graduate seminars at the 7000-level in philosophy, plus satisfaction of all Ph.D. logic requirements, the course requirements in value theory, history, and metaphysics/epistemology, and the three Prelim Essays.

**Candidacy** must be established by the time twelve credits have been earned. All students in the master's program must pass the Departmental examinations in elementary logic before the second year of study.

## Doctor of Philosophy with a Major in Philosophy

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate degree, including thirty credits of dissertation directed study. The thirty credit

dissertation registration requirement is fulfilled by registering for PHI 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively. In order to continue in the program and gain admission to candidacy, a student must satisfy the following:

1. Pass PHI 5050 or the Departmental Examination in elementary logic before the second year in the doctoral program;
2. Complete the Departmental Advanced Logic Requirements by the end of the fourth year;
3. Satisfy the course requirements in metaphysics/epistemology, value theory, and history of philosophy by the end of the fourth year;
4. Complete the three Prelim Essays by the beginning of the fifth year; and
5. Pass an oral examination on the dissertation proposal, by the end of the first semester of the sixth year;

The candidate's doctoral committee must approve the doctoral dissertation prior to an oral presentation open to all interested faculty and students.

Before receiving a Ph.D., the student must give some classroom lectures under the supervision of the faculty of the Philosophy Department.

A detailed statement of departmental degree requirements is available at <http://www.clas.wayne.edu/Philosophy/> (click "Graduate Programs").

## Assistantships and Fellowships

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

A limited number of assistantships and fellowships are available to qualified students. Information may be obtained from the Director of Graduate Admissions in the Philosophy Department.

## GRADUATE COURSES (PHI)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## History of Philosophy

### 5400 Presocratic Philosophy. Cr. 3

Prereq: any philosophy course at the 2000-level or above; or Classics major; or consent of instructor. 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. (I)

### 5410 Plato. Cr. 4

Prereq: any philosophy course at the 2000 level or above, or classics major, or consent of instructor. Selected readings on topics in Plato. (B)

**5420 Aristotle. Cr. 4**

Prereq: any philosophy course at the 2000 level or above, or classics major, or consent of instructor. Selected readings on topics in Aristotle. (B)

**5440 Continental Rationalism. Cr. 4**

Prereq: any philosophy course at the 2000 level or above, or consent of instructor. Topics concerning Descartes, Spinoza or Leibniz. (I)

**5450 British Empiricism. Cr. 4**

Prereq: any philosophy course at the 2000 level or above, or consent of instructor. Topics concerning Locke, Berkeley or Hume. (I)

**5460 Kant. Cr. 4**

Prereq: any philosophy course at the 2000 level or above, or consent of instructor. Selected topics or readings in Kant's philosophy. (B)

**7810 Seminar in History of Philosophy. Cr. 4 (Max. 8)**

Study of a philosopher or period. (I)

## Theory of Value

**5240 Special Topics in Social and Political Philosophy. Cr. 4 (Max. 8)**

Prereq: any philosophy course at the 2000 level or above or major in political science or consent of instructor. Selected topics and readings from major social and political philosophers. (I)

**5270 Philosophy of Law. Cr. 4**

Prereq: upper division standing. Intensive investigation and discussion of special topics or particular authors in the philosophy of law. (B)

**5280 History of Ethics. Cr. 4**

Prereq: one philosophy course at the 2000 level or above or consent of instructor. A survey and discussion of historically important moral philosophers from Plato to Mill. (B)

**5300 Twentieth Century Analytic Ethics. Cr. 4**

Prereq: any philosophy course at the 2000 level or above or consent of instructor. 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. (B)

**7830 Seminar in Aesthetics. Cr. 4 (Max. 8)**

Prereq: PHI 3700 or consent of instructor. (I)

**7840 Seminar in Ethics. Cr. 4 (Max. 8)**

Prereq: any 5000-level course in philosophy or consent of instructor. (I)

## Philosophical Problems

**5230 Philosophy of Science. (SOC 6080) Cr. 4**

Prereq: PHI 1850 or 1860 or any course from the Philosophical Problems group or consent of instructor. Intensive investigation and discussion of special topics or particular authors in the philosophy of science. (Y)

**5500 Topics in Metaphysics. Cr. 4**

Prereq: any course from the Philosophical Problems group or consent of instructor. Intensive investigation and discussion of special topics or particular authors in metaphysics. (Y)

**5530 Topics in Epistemology. Cr. 4**

Prereq: any course from the Philosophical Problems group or consent of instructor. Intensive investigation and discussion of special topics or particular authors in the theory of knowledge. (I)

**5550 Philosophy of Mind. Cr. 4**

Prereq: any course from the Philosophical Problems group or consent of instructor. Intensive investigation and discussion of special topics or particular authors concerned with the nature and status of the mental and theories about the mental. (B)

**5570 Philosophy of Language. (LIN 5570) Cr. 4**

Prereq: PHI 1850 or 1860 or any philosophy course from the Philosophical Problems Group or graduate student in linguistics or consent of instructor. Intensive investigation and discussion of philosophical problems concerning meaning, truth, and the nature of language. (B)

**5630 Twentieth Century Analytic Philosophy I. Cr. 4**

Prereq: PHI 1850 or 1860 and any philosophy course from the Philosophical Problems Group or consent of instructor. 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. (I)

**5640 Twentieth Century Analytic Philosophy II. Cr. 4**

Prereq: PHI 1850 or 1860 and any philosophy course from the Philosophical Problems Group or consent of instructor. Major works, movements, and writers in the analytic tradition from the 1940s to the present, such as Quine, Austin, Ryle, the later Wittgenstein, Grice, Kripke, Putnam. (I)

**7790 Seminar in Philosophy of Language. Cr. 4 (Max. 8)**

Prereq: one 500-level course in philosophy or consent of instructor. (I)

**7800 Seminar in Philosophy: Special Topics. Cr. 4 (Max. 8)**

Prereq: one 5000-level course in philosophy or consent of instructor. (I)

**7850 Seminar in Epistemology. Cr. 4 (Max. 8)**

Prereq: one 5000-level philosophy course or consent of instructor. (I)

**7860 Seminar in Metaphysics. Cr. 4 (Max. 8)**

Prereq: one 5000-level philosophy course or consent of instructor. (I)

**7890 Seminar in Philosophy of Science. Cr. 4 (Max. 8)**

Prereq: one 5000-level philosophy course or consent of instructor. (I)

## Logic

**5050 Advanced Symbolic Logic. (LIN 5050) Cr. 4**

Prereq: junior, senior, or graduate standing. 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. (Y)

**5200 Modal Logic. (LIN 5200) Cr. 4**

Prereq: PHI 1850 or 1860 or consent of instructor. The logic of necessity, possibility, and other modal notions as they occur in epistemic and deontic contexts. Propositional and quantified modal logic. (B)

**5350 Logical Systems I. (MAT 5350) Cr. 4**

Prereq: PHI 1850 or 1860 or 5050 or MAT 5600 or MAT 5420 or consent of instructor; for philosophy graduate students: satisfaction of elementary logic requirement. Metaresults concerning formal systems of first-order logics; soundness, completeness, and compactness; introduction to model theory; introduction to recursive functions and Church's theorem; formalization of elementary arithmetic; discussion of Godel's first and second incompleteness theorems; and Tarski's theorem. (I)

**5390 Logical Systems II. (MAT 5390) Cr. 4**

Prereq: PHI 5350 or MAT 5350 or consent of instructor. Advanced topics in logic. (I)

**5750 Philosophy of Logic. Cr. 4**

Prereq: PHI 1850 or 1860 and one other philosophy course at the 2000 level or above, or consent of instructor. Topics concerning such issues as the nature of logic, the relation between logic and ontology, and the relation between logic and mathematics. (I)

**7870 Seminar in Logic. Cr. 4 (Max. 8)**

Prereq: PHI 1850 or 1860, and one 5000-level philosophy course, or consent of instructor. (I)

## Special Courses

**5800 Special Topics in Philosophy. Cr. 3-4 (Max. 9)**

Topics and prerequisites to be announced in Schedule of Classes. (I)

**5990 Directed Reading. Cr. 1-6 (Max. 12)**

Prereq: undergrad., consent of chairperson and instructor; grad., consent of chairperson, graduate officer and instructor. Intensive investigation by student on topic chosen by student in consultation with instructor. (T)

**7999 Master's Essay Direction. Cr. 1-4 (4 req.)**

Prereq: consent of advisor. (T)

**8999 Master's Thesis Direction and Research. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHI 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHI 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHI 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHI 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHI 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHI 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PHI 9991- PHI 9994. Offered for S and U grades only.

# Physics and Astronomy

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Chairperson: Ratna Naik (rnaik@wayne.edu)

Associate Chairperson: Jogindra M. Wadehra

Academic Services Officer: J. Scott Payson

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## Professors

David Cinabro, Thomas M. Cormier, Sean Gavin, Robert F. Harr, Peter M. Hoffmann, Paul E. Karchin, Paul H. Keyes, Caroline G. Morgan, Ratna Naik, Abbas Nazri (Research), Alexey A. Petrov, Claude Pruneau, Robert L. Thomas, Sergei Voloshin, Jogindra M. Wadehra

## Emeritus Professors

Jhy Jiun Chang, Juei Teng Chen, Harry H. Denman, Gerald L. Dunifer, Lawrence D. Favro, David M. Fradkin, Suraj N. Gupta (Distinguished), Walter E. Kauppila, Yeong Wook Kim, William B. Rolnick, Alvin M. Saperstein, Talbert S. Stein, Melbourne G. Stewart

## Associate Professors

Giovanni Bonvicini, David Bowen, Zhi Feng Huang, Gavin Lawes, Abhijit Majumder, Ashis Mukhopadhyay, Boris Nadgorny, Karur R. Padmanabhan, Joern Putschke

## Assistant Professors

Jian Jun Bao (Research), Edward Cackett, Jian Huang, Mark Mattson (Research), Gil Paz, Takeshi Sakamoto, Zhixian Zhou

## Adjunct Professors

Gregory W. Auner, Ivan Avrutsky, Elizabeth Buc, Neb Duric, Mark Haacke, Xiaoyan Han, Caroline Milstene, Vaman Naik, Steven J. Rehse, Jagdish Thakur, Prem Vaishnav

## Graduate Degrees

*MASTER OF ARTS with a major in Physics*

*MASTER OF SCIENCE with a major in Physics*

*DOCTOR OF PHILOSOPHY with a major in Physics*

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 degree programs of this department are designed to provide students with the broad-based knowledge and problem-solving skills that are needed in order to be productive physicists in an academic, government, or industrial environment. The programs can accommodate students with varying undergraduate backgrounds and are designed to provide maximum flexibility for individual students. At the doctoral level, specializations are offered in the areas of: elementary particle physics, nuclear physics, condensed matter physics, atomic physics, materials science, optics, mathematical physics, quantum field theory, and applied physics.

Faculty members are committed to excellence in research and teaching, and work in an open and informal atmosphere which allows effective communication between students and advisors. The faculty hold national and international reputations in their areas of specialization. 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 labora-



ories. The department is housed in a modern physics building containing well-equipped research laboratories.

## Master's Degrees with a Major in Physics

For some students, the master's degree will be used as part of a continuing Ph.D. program; for others, it will be a terminal degree leading to employment in government laboratories, industrial programs, hospitals, teaching positions, and other occupations. The Master of Science with a Major in Physics is offered under Plan A, and the Master of Arts with a Major in Physics is offered under Plan B, as described below.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must satisfy the following criteria.

Prerequisite preparation should include a minimum of general college physics with laboratory (equivalent to Physics 2170, 2180, and 3300), fifteen credits in the intermediate physics courses (for example, those equivalent to Physics 5100, 5200, 5210, 5340, 5500, 6400, 6410, 6600, 6610, 6850); mathematics equivalent to mathematics prerequisites required in these physics courses; and Chemistry 1220/1230 or equivalent courses.

The Graduate Record Examination, both the General section and the Physics subject test, is strongly recommended as a counseling aid in preparing the student's plan of study.

**Scholarship:** All course work must be completed in accordance with the academic procedures of the College of Liberal Arts and Sciences and the Graduate School governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

**MASTER OF SCIENCE REQUIREMENTS:** The Master of Science degree is offered by this Department only under the following two options:

**Plan A:** *Twenty-four credits in course work plus an eight-credit thesis.*

Specific requirements include the following:

1. At either the graduate or undergraduate level, Physics 5100, 5210, 5500, 6400, 6410, 6600, 6610, or equivalent courses, and mathematics equivalent to mathematics prerequisites required in these physics courses.
2. At least nine credits of coursework in physics at the 7000 level or above (exclusive of Physics 7990, 7996, 7999, 8995, 8999).
3. A departmental final oral examination is required of all candidates.

**Plan C:** Graduate students who have successfully presented their Ph.D. prospectus can obtain a Master of Science degree under Plan C by virtue of having earned the required 32 credits in course work. (The M.S. in physics may be earned as a Plan C option ONLY as conjoint to the Ph.D program.) Interested students should contact the Graduate advisor in the Department for more information.

**MASTER OF ARTS REQUIREMENTS:** The Master of Arts degree is offered by this Department only under the following option:

**Plan B:** *Twenty-nine credits in course work plus a three-credit essay.*

Course requirements are the same as requirements (1) through (3) in the Master of Science program above.

## Doctor of Philosophy with a Major in Physics

**Admission Requirements:** see above, under 'Master's Degrees.'

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate, including thirty credits of dissertation research. The thirty credit dissertation registration requirement is fulfilled by registering for the courses 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and

Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Students must demonstrate proficiency in the fields of:

- a) Mechanics
- b) Electromagnetic Theory
- c) Quantum Physics
- d) Thermodynamics and Statistical Mechanics

The following courses or their equivalent will be required of all candidates: Physics 7110, 7200, 7400, 7410, 7500, 7600.

In general, it is recommended that students take all the advanced courses in their specialty. Students specializing in any branch of theoretical physics are encouraged to take the quantum theory of fields, or a related directed study. Finally, the student must submit an approved dissertation.

On petition of the student and his/her thesis advisor, the Departmental Graduate Committee may waive any of the above course requirements.

**Ph.D. Qualifying Examination:** This will normally be taken after the student has completed approximately one year of graduate course work. Its purpose is to investigate the student's knowledge of physics and capacity for creative thought. This is a written examination. The student must submit a Plan of Work prior to taking this examination.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

**Physics Colloquium (PHY 8995):** It is required that all full-time graduate students register for and attend the Departmental Physics Colloquium each semester they are in residence.

## Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Graduate teaching assistant appointments are available to qualified entering and continuing graduate students. A graduate course load of approximately nine credits per semester is usual with such an appointment. Normally about eight to ten contact hours of laboratory instruction sessions per week are arranged. Graduate teaching assistants also spend time at the Physics Resource Center assisting undergraduate students.

Graduate research assistant appointments, involving no teaching duties, are also available to qualified students. Stipends for these appointments are comparable to the teaching appointment stipends. Research undertaken while holding such an appointment may form the basis of the master's or doctoral thesis.

In addition, various government fellowships, University fellowships, and Knoller Physics Fellowships are available within the Department. Students applying for either teaching or research appointments are automatically considered for these grants. Application blanks and specific information concerning the above appointments may be obtained by writing the Chairperson.

## COURSES OF INSTRUCTION

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are also offered for undergraduate credit may be found in the undergraduate bulletin, along with all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit

accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

All courses with a laboratory have a non-refundable materials fee and are so indicated in the Schedule of Classes.

## ASTRONOMY (AST)

### **5010 Astrophysics and Stellar Astronomy. (PHY 5010) Cr. 3 (LCT: 3)**

Prereq: PHY 2140 or PHY 2180, MAT 2010, or consent of instructor. 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. (B:W)

### **5100 Galaxies and the Universe. Cr. 3**

Prereq: PHY 3300; or consent of instructor. 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. (W)

### **6180 (PHY 6180) Astronomy and Planetary Geology for Secondary-School Educators. Cr. 3-4**

Open only to middle- or high school teachers. Prereq: PHY 2130, 2140. Material fee applies when taken for four credits (optional laboratory). Quantitative description of constituents of solar system. Required math: algebra and trigonometry. Material Fee as indicated in the Schedule of Classes. (B:F)

## PHYSICS (PHY)

### **5010 (AST 5010) Astrophysics and Stellar Astronomy. Cr. 3**

Prereq: PHY 2140 or 2180, MAT 2010 or consent of instructor. 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. (B:W)

### **5030 Plasma Physics. Cr. 3**

Prereq: PHY 6600, or 2180 and consent of instructor and MAT 2020. Introduction to plasma physics for students in science and engineering. Motion of charged particles in electromagnetic fields; magnetohydrodynamic theory including electron conductivity and mobility; wave propagation in a plasma; plasma kinetic theory with emphasis on Boltzmann, Vlasov and Fokker-Planck equations; plasma sheaths. (B:W)

### **5100 Methods of Theoretical Physics I. Cr. 3**

Prereq: PHY 2180, MAT 2030. Introduction to mathematical tools used in advanced courses in physics. (F)

### **5200 (WI) Classical Mechanics I. Cr. 3**

Prereq: PHY 2180, PHY 5100. 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. (F)

### **5210 Classical Mechanics II. Cr. 3**

Prereq: PHY 5200 and MAT 2350. 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. (W)

### **5340 Optics. Cr. 3**

Prereq: PHY 2140 or PHY 2180, MAT 2030 or PHY 3700; coreq. for PHY majors: PHY 5341. Electromagnetic radiation; geometrical, physical, and modern optics. (W)

### **5341 Optics Laboratory. Cr. 2**

Prereq. or coreq: PHY 5340 or ECE 5760. Experiments involving geometrical, physical, and quantum optics. Material Fee as indicated in the Schedule of Classes. (W)

### **5500 Thermal Physics. Cr. 4**

Prereq: PHY 3300, PHY 5100. Notions of temperature, equation of state, internal energy, the three Laws of Thermodynamics, Carnot's theory, entropy, thermodynamic potentials, kinetic theory, partition function, heat capacity of solids, thermodynamics of radiation, Fermi-Dirac gases. (F)

### **5620 Electronics and Electrical Measurements. Cr. 0 or 5**

Prereq: PHY 2180 or PHY 2140 or consent of instructor. Amplifier circuits, operational amplifiers, oscillators, digital electronics, analog and digital measurements. Material Fee as indicated in the Schedule of Classes. (F)

### **5700 (WI) Biomedical Physics Seminar. Cr. 3**

Prereq: PHY 3700, PHY 4700. Introduction to modern research in biomedical physics. Development of presentation and writing skills. (F)

### **5990 Directed Study. Cr. 1-3**

Prereq: junior standing and consent of advisor and instructor. 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. (T)

### **6050 Special Topics in Physics for Secondary-School Educators. Cr. 3**

Prereq: introductory physics courses in mechanics, and in electricity and magnetism; or consent of instructor. Open only to pre-college or community college teachers. Special topics in physics designed for secondary teachers. Topics offered as needed; may include: astronomy and cosmology, meteorology, relativity, quantum theory, atomic and nuclear physics, optics. (Y)

### **6100 Classical Physics for Secondary School Educators. Cr. 3**

Open only to middle- or high school teachers. Prereq: PHY 2130, 2140. Mechanics, electricity, magnetism: fundamentals. Applications to problem solving. Selected special topics. Required math: algebra and trigonometry. (B:F)

### **6120 Energy Generation and Consumption for Secondary-School Educators. Cr. 0-4**

Open only to middle- or high school teachers. Prereq: PHY 2130, 2140. Material fee applies when elected for four credits (optional laboratory). Different sources of energy and how their use impacts the environment. Required math: algebra and trigonometry. Material Fee as indicated in the Schedule of Classes. (B:W)

### **6160 Meteorology for Secondary-School Educators. Cr. 3-4**

Open only to middle- or high school teachers. Prereq: PHY 2130, 2140. Material fee applies when elected for four credits (optional laboratory). Earth's atmosphere and various weather processes. Required math: algebra and trigonometry. Material Fee as indicated in the Schedule of Classes. (S)

### **6180 (PHY 6180) Astronomy and Planetary Geology for Secondary-School Educators. (AST 6180) Cr. 3-4**

Open only to middle- or high school teachers. Prereq: PHY 2130, 2140. Material fee applies when taken for four credits (optional labo-

ratory). Quantitative description of constituents of solar system. Required math: algebra and trigonometry. Material Fee as indicated in the Schedule of Classes. (B:F)

**6350 Applied Modern Optics. Cr. 3**

Prereq: PHY 5340. Coherent radiation, laser physics and optical devices, optical techniques in experimental science, topics in modern optics. (B:W)

**6400 Quantum Physics I. Cr. 3**

Prereq: PHY 3300, PHY 5100, MAT 2150. 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. (W)

**6410 Quantum Physics II. Cr. 3**

Prereq: PHY 6400 or consent of instructor. 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. (F)

**6450 Introduction to Material and Device Characterizations. Cr. 4**

Coreq: PHY 7050 or ECE 5500 or ECE 5550 or equiv. 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. (W)

**6570 (ECE 6570) Smart Sensor Technology I: Design. (BME 6470) Cr. 4**

Prereq: B.S. degree in engineering or science. Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. (F)

**6600 Electromagnetic Fields I. Cr. 3**

Prereq: PHY 5100, PHY 5200, MAT 2150, or consent of instructor. Topics include electrostatics, solution of Laplace equation, dielectric media, electric current, magnetic field of steady currents, magnetic properties of matter, electromagnetic induction. (F)

**6610 Electromagnetic Fields II. Cr. 3**

Prereq: PHY 6600 or consent of instructor. Continuation of PHY 6600: Maxwell equations, electromagnetism and relativity, optics, wave guides and transmission lines, radiation of EM waves. (W)

**6700 Biological Physics. Cr. 4**

Prereq: PHY 3700, PHY 4700. Introduction to applications of physics to molecular biology. Capstone course in biomedical physics undergraduate major. (F)

**6710 Physics in Medicine. (RAD 6710) Cr. 3**

Required for B.S. in Biomedical Physics. Applications of physics in medicine including radioactivity; interaction of radiation in matter; x-ray, CT, MRI, ultrasound, and PET imaging; nuclear medicine; radiation oncology; nerve electrophysiology, electrocardiogram, pacemakers, and defibrillators. (W)

**6780 Research Methods in Biomedical Physics. Cr. 3**

Prereq: PHY 3700, PHY 4700. Introduction to laboratory experience in biomedical physics research. (W)

**6850 (WI) Modern Physics Laboratory. Cr. 2**

Prereq: PHY 3300 or consent of instructor. Techniques and experiments in physics of atoms, atomic nuclei, molecules, the solid state and other areas that have advanced our modern understanding of physics. Material Fee as indicated in the Schedule of Classes. (W)

**6860 Computational Physics. Cr. 3**

Introduction to computational languages and local computational environment; description of techniques in numerical analysis including linear algebra, integration, algebraic and differential equations,

data analysis and symbolic algebra; optimization and parallel computing. (B:W)

**6991 Special Topics. Cr. 1-4 (Max. 4)**

Prereq: consent of instructor. Offered for S and U grades only. Topics and prerequisites for each section to be announced in Schedule of Classes. More than one section may be elected in a semester. (Y)

**6992 Physics Graduate Teaching Assistant Training. Cr. 1**

Prereq: graduate standing or consent of instructor. Offered for S and U grades only. 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. (F)

**6993 Analytical Problem Solving in Physics. Cr. 1**

Discussion of physics problems in mechanics, thermodynamics, electromagnetism and quantum mechanics for graduate students. (F,W)

**7010 Modern Physics for Secondary School Educators. Cr. 3-4**

Open only to middle- or high school teachers. Prereq: PHY 2130, 2140. Material fee applies when elected for four credits (optional laboratory). Development of relativity and quantum mechanics. Emphasis on nuclear physics and elementary particles. Required math: algebra and trigonometry. (F,S)

**7050 Elementary Solid State Physics. Cr. 3**

Prereq: PHY 6400 or equiv. Contemporary solid state physics dealing primarily with experiments in this area and with modern descriptive models of solids. (W)

**7060 Survey of Elementary Particle Physics. Cr. 3**

Prereq: PHY 6400 or equiv. 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. (W)

**7070 Survey of Nuclear Physics. Cr. 3**

Prereq: PHY 6400 or equiv. Survey of nuclear decay, nuclear structures, nuclear interactions and reactions, nuclear models, conservative laws and subnuclear particles. (W)

**7110 Methods of Theoretical Physics II. Cr. 3**

Prereq: PHY 5100 or equiv. Continuation of PHY 5100. (F)

**7200 Advanced Mechanics. Cr. 3-4**

Prereq: PHY 5210 or consent of instructor. Variational principles, central forces, transformation theory, Hamilton-Jacobi theory. (W)

**7215 (PSL 7215) Nanobioscience. (CHE 7215) (CHM 7215) Cr. 3**

Prereq: first year calculus, general chemistry. Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. (F)

**7400 Quantum Mechanics I. Cr. 3**

Prereq: PHY 7200 or consent of instructor; coreq: PHY 5100 or equiv. Schrodinger wave equation, its meaning and solutions as applied to simple physical and chemical problems. Perturbation theory. Theory of atomic collisions, matrix mechanics, transformation theory, angular momentum and spin, theory of measurement. (F)

**7410 Quantum Mechanics II. Cr. 3**

Prereq: PHY 7400. Continuation of PHY 7400. (W)

**7500 Statistical Mechanics. Cr. 4**

Prereq: PHY 5500, PHY 7400 or consent of instructor. Classical and quantum statistical mechanics and applications. (F)

**7550 Solid State Physics I. Cr. 3**

Prereq: PHY 7050, PHY 7110, and PHY 7400 or consent of instructor. Current topics in condensed matter physics, including electronic band structure, magnetism, superconductivity nanophysics, and the optical properties of solids. (B:F)

**7560 Solid State Physics II. Cr. 3**

Prereq: PHY 7050, PHY 7110 and PHY 7400 or consent of instructor. 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. (B:W)

**7580 (ECE 7570) Smart Sensor Technology II: Characterization and Fabrication. (BME 7470) Cr. 4**

Prereq: PHY 6570 or ECE 6570. Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Material Fee as given in the Schedule of Classes. (W)

**7600 Electromagnetic Theory I. Cr. 3**

Prereq: PHY 6610 or consent of instructor. Microscopic and macroscopic Maxwell's equations, special relativity, Lagrangian and Hamiltonian formulation of EM theory, energy-momentum tensor, conservation laws, radiation, scattering, applications. (W)

**7610 Electromagnetic Theory II. Cr. 3**

Prereq: PHY 7600. Continuation of PHY 7600. (F)

**7990 Directed Study. Cr. 1-3 (Max. 6)**

Prereq: consent of advisor, instructor, chairperson of graduate studies committee and graduate officer must be obtained prior to registration. Application forms available in department office. Primarily for graduate students in physics who wish to study material not covered in regular courses. (T)

**7996 Research in Physics. Cr. 1-4 (Max. 12)**

Prereq: consent of advisor and chairperson of graduate studies committee. (T)

**7999 Master's Essay Direction. Cr. 1-3 (3 req.)**

Prereq: consent of advisor. (T)

**8570 (ECE 8570) Smart Sensor Technology Seminar. (BME 8470) Cr. 1**

Prereq: ECE 6570, 7570. Technological advances. Interaction of research experience in smart sensors and integrated devices. (W)

**8800 Nuclear Physics. Cr. 3**

Prereq: PHY 7070, 7110, and 7410. Research topics in nuclear physics such as: relativistic heavy ion physics, nuclear/nucleon models, and many body theory. Covers both theory and experimental methods. (B:W)

**8810 Particle Physics. Cr. 3**

Prereq: PHY 7060, 7110, and 7410. 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. (B:F)

**8850 Quantum Theory of Fields I. Cr. 3**

Prereq: PHY 7110, 7410. Introduction to quantum field theory with quantum electrodynamics. Renormalization, regularization, Feynman diagrams, applications to scattering processes and bound states. Suitable for both students of theory and experiment in the fields of nuclear, particle, and solid state physics. (B:F)

**8860 Quantum Theory of Fields II. Cr. 3**

Prereq: PHY 8850. Continuation of quantum field theory. Advanced topics; development of strong, electroweak, and gravitational interactions; other topics. Appropriate for students in fields of nuclear, particle, or solid state physics. (B:W)

**8991 Special Topics. Cr. 1-3 (Max. 12)**

Prereq: consent of instructor, advisor and chairperson of graduate studies committee. Offered for S and U grades only. Topics and prerequisites for each section to be announced in Schedule of Classes. More than one topic may be elected in a semester. (F,W)

**8995 Colloquium. Cr. 1**

Offered for S and U grades only. Must be elected every semester by all graduate physics students. Lectures given by visitors, graduate staff and advanced graduate students. (F,W)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHY 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHY 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHY 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHY 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHY 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHY 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PHY 9991- PHY 9994. Offered for S and U grades only.

# Political Science

Office: 2040 Faculty/Administration Building; 313-577-2630  
Chairperson: Daniel S. Geller (Email: av0844@wayne.edu)  
Website: <http://www.clas.wayne.edu/politicalscience/>

## Professors

Philip R. Abbott, Timothy Bledsoe, Charles D. Elder, Richard C. Elling, Susan P. Fino, Daniel S. Geller, Michael Goldfield, Charles J. Parrish, Frederic S. Pearson, Brad Roth, Marjorie E. Sarbaugh-Thompson, Lawrence A. Scaff, T. Lyke Thompson, Maurice Waters (Emeritus)

## Associate Professors

Brady Baybeck, Ronald E. Brown, James T. Chalmers, Kevin Deegan-Krause, Ewa Golebiowska, Jeffrey Grynaviski, Mary Herring, Yumin Sheng, John M. Strate

## Assistant Professors

Timothy A. Carter, Kyu-Nahm Jun, Sharon F. Lean

## Graduate Degrees

*MASTER OF ARTS with a major in Political Science*

*MASTER OF PUBLIC ADMINISTRATION*

*JOINT MASTER OF ARTS — JURIS DOCTOR*

*DOCTOR OF PHILOSOPHY with a major in Political Science*

The study of political science is aimed at understanding and illuminating the nature and problems of government and the role of politics in the modern world. This is accomplished through systematic exploration of the structure and processes of government at different levels and across nations, through the study of individual and collective political behavior, and through analyses of policy problems and the processes through which public policies are formulated and administered. 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 — local, state or federal, and in non-profit organizations dealing with the public sector.
3. Teaching of political and social science at the secondary, community college and university levels.
4. Positions in the diplomatic, foreign and overseas programs of the U.S. Government and of large private concerns doing business abroad.
5. Leadership, research and staff roles in citizen organizations, political parties, economic and social interest groups, municipal research bureaus and nonprofit organizations.
6. Positions associated with mass communications, such as radio, television and newspapers, where 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.

## Master of Arts with a Major in Political Science

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. A strong undergraduate performance is a prerequisite and substantial undergraduate preparation in the social sciences is recommended. Applicants must take the Graduate Record Examination and have the results sent to the Department, 2040 Faculty/Administration Building, Wayne State University, Detroit MI 48202.

Applicants to the program should consult the Department's Director of Graduate Studies. Further information on the program is available on the Department's webpage at <http://www.clas.wayne.edu/politicalscience/>.

**DEGREE REQUIREMENTS:** The Master of Arts with a Major in Political Science is offered under the following options:

**Plan A:** Thirty-three or thirty-four credits including an eight-credit thesis.

**Plan B:** Thirty-three or thirty-four credits including a three-credit essay.

Depending on the student's program, thirty-three or thirty-four credits, including a minimum of twenty-four credits in political science, are required. All students must satisfy a general Departmental requirement aimed at the development of basic analytic and methodological skills by successfully completing Political Science 5630 (statistics) and Political Science 7660 (research methodology). These courses should be taken early in the student's program of study. Students select a major area of study from among the following six fields: American government and politics, comparative politics, political theory, public policy, urban politics, or world politics. All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively. A written, comprehensive examination in the major field is required. If the thesis option is elected, an oral examination on the thesis is also required.

A student's program is finalized in a Plan of Work that must be filed by the time the student has earned twelve credits. The student should consult the Department's Director of Graduate Studies for guidance in the development of his/her Plan of Work and for the specific requirements of the major concentration.

No credit will be granted without authorization of the Department's Graduate Committee for courses in Political Science taken at Wayne State University prior to formal admission to the M.A. program.

## Master of Arts/Juris Doctor

This Department in cooperation with the School of Law offers a joint degree program leading to a Master of Arts degree in Political Science and a Juris Doctor degree.

**Admission:** Students must first be admitted to the Law School before applying for this joint degree program. Having entered the Law School, students may then apply for admission to the Master of Arts program in Political Science. Applicants must satisfy all admissions requirements for the Master of Arts in Political Science (see above), except for the Graduate Record Examination which is satisfied by Law School admission. Students should have some undergraduate background in the social sciences, including course work in American politics. Students lacking such preparation may be required to take course work in addition to the minimum required for the degree.

**DEGREE REQUIREMENTS:** This degree is offered only as a *Plan B* master's program requiring thirty-three credits including a three credit essay. Credit distribution must consist of twenty-one credits of political science including P S 5630, 7660, and the essay credit; and

twelve credits in law courses. Programs integrating course selections from the two principal areas are developed on an individual basis. A written comprehensive examination in the M.A. major is required at the end of course work.

Upon completion of these M.A. requirements and the Law School requirements for the J.D., students are awarded both degrees. Students should begin course work in the Law School and complete the required first year curriculum before taking any Political Science courses. Subsequently, a combination of political science and law courses may be taken. For further information regarding the joint program, students should consult the Department's Director of Graduate Studies.

## Master of Public Administration

This program is designed to prepare students for careers in public service in government, nonprofit organizations, and private organizations. The curriculum emphasizes study of the environment of public service, management techniques, organizational dynamics, the policy process, and the analysis of public policies.

**Accreditation:** The program is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA).

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Undergraduate preparation in the social sciences, although recommended, is not required. Applicants must have a 3.0 grade point average in the last sixty credits of undergraduate work to be considered for regular admission. In addition, scores from the Graduate Record Examination (GRE) must be submitted, with the following exceptions:

1. Applicants with an undergraduate grade point average exceeding 3.29 need not submit GRE scores.
2. Applicants who hold a master's degree in another field, and have a graduate grade point average exceeding 3.29 in their graduate degree work, need not submit GRE scores.

For further information, prospective applicants should consult the program's website at <http://www.clas.wayne.edu/MPA/>.

**DEGREE REQUIREMENTS:** The Master of Public Administration is offered under the following option:

**Plan C:** Thirty-nine credits (minimum) in course work.

Of the thirty-nine credits required for the degree, thirty credits are earned in a required set of core courses within the Department. Students without significant administrative background must meet an additional requirement of at least three credits of supervised internship over and above the minimum of thirty-nine credits otherwise required. All students must complete thirty credits of core requirements including P S 5630, 7300, 7320, 7330, 7340, 7350, 7375, 7410, 7460 (or 7660) and 7480. As part of the thirty-nine credits, students are also required to complete an area of concentration consisting of at least nine credits, which may require course work outside of political science. Passage of a written comprehensive examination based on the core curriculum is also required to earn this degree.

A student's program is finalized in a Plan of Work that must be filed by the time the student has earned twelve credits. The student should consult the department's M.P.A. program director for guidance in preparing this Plan of Work.

All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively. No credit will be granted for courses taken at Wayne State prior to formal admission to the M.P.A. program without prior authorization of the M.P.A. Program Committee.

**Areas of Concentration:** Students in the M.P.A. program are required to select an area of concentration consisting of a minimum of nine credits of interrelated course work. Students must consult

with, and secure the approval of, the M.P.A. program director prior to undertaking this part of the program, but students pursuing a specific career goal may use the Elective Option to design their own concentration.

- Aging Policy and Management
- Criminal Justice Policy and Management
- Economic Development Policy and Management
- Health Services Policy and Management
- Human Resources Management
- Information Technology Management
- Non-Profit Management
- Organizational Behavior and Management
- Public Policy Analysis and Program Evaluation
- Public Budgeting and Financial Management
- Social Welfare Policy and Management
- Urban Policy and Management
- Elective Option (individually tailored)

**Certificate in Gerontology:** In conjunction with their degree work, M.P.A. students may also pursue a certificate in gerontology offered through the Wayne State University Institute of Gerontology. Students interested in this program should refer to the Graduate School General Information section of this bulletin, beginning on page 18.

**Certificate in Economic Development:** In conjunction with their degree work, M.P.A. students may also pursue a certificate in economic development, offered through the Department Urban Studies and Planning; see page 384.

## AGRADE' — Accelerated Graduate Enrollment

The Department of Political Science permits undergraduate majors with superior academic records to petition for accelerated graduate enrollment under the 'AGRADE' program of the College of Liberal Arts and Sciences. This program allows qualified seniors to apply credits earned in specifically approved courses to both a bachelor's and a master's degree. Acceptance in the program is governed by the rules and procedures set forth by the College (see page 169). Students in the program must also satisfy the Department's normal admission requirements for the master's degree, including the Graduate Record Examination, in order to be admitted to the Graduate School. For further details, students should contact the Department's Director of Graduate Studies.

## Doctor of Philosophy with a Major in Political Science

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. The doctoral program is open only to highly qualified students. Prospective students should consult the program description available on the Department's webpage at: <http://www.clas.wayne.edu/politicalscience/>. Students should also review the requirements for graduate study in the Graduate School section of this bulletin (see pages 18-36).

All students are required to take the Graduate Record Examination. All applications for admission to the doctoral program in political science must have the approval of the Department's Graduate Committee. Applicants may apply for admission at any time, but all application materials must be received at least six weeks prior to the start of the semester for which admission is sought. Applicants seeking financial aid should apply for Fall semester admission and submit all application materials by February 15.

The doctoral degree in political science indicates not merely superior knowledge of this discipline but also intellectual initiative and the ability to design and carry out independent research and evaluation. Students in their pre-candidacy stage will be judged on the basis of these attributes as well as on their grade-point performance. Posses-

sion of a master's degree does not automatically warrant admission to doctoral study.

**DEGREE REQUIREMENTS:** A Ph.D. student is required to complete a minimum of ninety graduate credits, thirty of which are earned through the dissertation. The thirty credit dissertation registration requirement is fulfilled by registering for the courses P S 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Doctoral students structure their course work in terms of a single major field and two minor fields of political science. Major field concentrations may be elected in American Government, Comparative Politics, Political Theory, Public Administration, Public Policy, Urban Politics, or World Politics. Minor concentrations may be in the above seven fields. Other concentrations may be allowed upon approval of the Department's Graduate Studies Committee. Students should consult the Director of Graduate Studies regarding the specific requirements of these concentrations. Satisfactory completion of written and oral final qualifying examinations are a condition for candidacy.

All Ph.D. students are required to teach at least one semester course during their course of study for the degree, unless this requirement is specifically waived by the Director of Graduate Studies.

**Admission to candidacy** for the doctor's degree will usually require at least two years of full-time graduate study beyond the bachelor's degree. It is granted upon fulfillment of the following requirements:

1. Completion of Department and Graduate School residence and course requirements, including Political Science 7660 and 8600.
2. Filing an approved Plan of Work with the Graduate School.
3. Completion of the general statistics requirement (Political Science 5630 and 6640, or their equivalents);
4. Completion of a preliminary oral examination after the first year of course work for the degree;
5. Completion of the final qualifying examination (written and oral);

**Approval of Dissertation Prospectus:** The candidate is required to prepare a Dissertation prospectus to present following the oral qualifying examination. The prospectus must be approved by the Dissertation advisory Committee before beginning work on the Dissertation.

**Submission of Dissertation:** The candidate is required to submit a doctoral Dissertation on a topic satisfactory to his/her Dissertation Committee, designed to demonstrate proficiency in political science analysis, a capacity for independent and creative research, and the ability to perfect and follow through on an appropriate research or evaluation design.

## Assistantships and Scholarship Awards

Students admitted to graduate study in Political Science may apply for University fellowships, scholarships, and other forms of financial aid as described beginning on page 26. In addition, they may be eligible for the following assistantships, and scholarship awards offered through the Department.

**Assistantships:** Teaching and research assistantships in the Department of Political Science are available on a competitive basis to qualified students. Inquiries and applications should be directed to the Department's Director of Graduate Studies. Applications should be received by February 15.

**Awards:** Although some awards are offered at various times during the year, students' chances of receiving one are increased if they submit their applications no later than February 15.

**The Beatrice B. Martin Endowed Scholarship Award** is given annually to one undergraduate student and one graduate student in recognition of scholastic achievement. Although candidates are nominated by the faculty, applications are also accepted by the Director of Undergraduate Studies and the Director of Graduate Studies.

**The Alfred M. Pelham Scholarship Award** is given annually to a promising current student in public administration. Although candidates are nominated by the faculty, applications are also accepted by the M.P.A. program director.

**The Stephen B. Sarasohn Dissertation Fellowship** is given annually to one or more outstanding students who are nearing completion of the doctoral degree. Recipients must pursue their study on a full-time basis during the period covered by the award. Candidates may be nominated by the faculty or apply directly. Inquiries and applications should be directed to the Department's Director of Graduate Studies.

**The Jorge Tapia-Videla Award for Graduate Excellence** is a monetary award presented annually to a current student who has exhibited high achievement in some aspect of graduate work. Recipients are selected by the Graduate Studies Committee and the M.P.A. Committee of the Department in alternating years.

## Honorary Societies

**Pi Sigma Alpha** is the Wayne State chapter of the National Political Science Honorary Society for outstanding political science students.

**Pi Alpha Alpha** is the Wayne State chapter of the National Public Administration Honorary Society for outstanding public affairs/administration students.

## GRADUATE COURSES (P S)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5030 African American Politics. (AFS 5030) Cr. 4

Nature and texture of black politics; various perspectives on politics by blacks; the impact of blacks on American politics. (Y)

### 5040 Religion and Politics. Cr. 4

Prereq: P S 1010 or 1030. 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. (B)

### 5050 Mass Media and Politics. Cr. 3

Prereq: P S 1010 or 1030. 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. (Y)

### 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. (Y)

### 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. (Y)

**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. (B)

**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. Material Fee as indicated in the Schedule of Classes. (Y)

**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. (B)

**5740 Ethnicity: The Politics of Conflict and Cooperation. (AFS 5740) (PCS 5500) 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. (Y)

**5760 (N E 5110) History and Development of Islamic Political Thought. Cr. 3**

Prereq: N E 2030, N E 3040; or consent of instructor or chairperson. Historical analysis of political Islam through study of the precepts and historical vicissitudes impacting the Islamic world from within and from external forces. (F,W)

**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. (I)

**5830 International Conflict and Management. Cr. 4**

Types of international conflict and such methods of resolution as negotiation, mediation and other third-party procedures. (B)

**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. (Y)

**5860 Conflict in the Nuclear Age. Cr. 3**

Examination of post-World War II historical conflicts using formal mathematical models and games of strategic interaction. (Y)

**5890 (PCS 5000) Dispute Resolution. (CRJ 5994) (PSY 5710) Cr. 3**

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. (Y)

**5999 Special Topics in Political Science. Cr. 1-4 (Max. 16)**

Prereq: consent of instructor. Open only to juniors, seniors and graduate students. Topics to be announced in Schedule of Classes. (T)

**6010 Political Psychology. (PSY 6020) Cr. 3**

Prereq: P S 1010 or equiv. 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. (Y)

**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. (B)

**6050 Class, Race, and Politics in America. (AFS 6100) (HIS 5110) (SOC 7330) (U P 7030) Cr. 3**

Prereq: senior standing or consent of instructor. Historical and analytic investigation into the role of class and race in American politics. (I)

**6070 Labor and American Politics. (ELR 7420) 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. (B)

**6100 (PCS 6100) Introduction to Graduate Peace and Security Studies. (P S 6100) Cr. 3**

Survey of the peace and security studies fields at the graduate level. (F,W)

**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. (B)

**6340 (ELR 7430) Public Sector Labor Relations. Cr. 3**

Prereq: graduate standing. History, present functionings, problems and current controversies surrounding public sector unions. (B)

**6430 Social Welfare: Politics and Policy. Cr. 3**

National government policy related to old-age assistance, income maintenance, food stamps, health care, and other entitlement programs. (B)

**6440 (U P 6550) Regional, State, and Urban Economic Development: Policy and Administration. (ECO 6650) Cr. 3**

Prereq: graduate standing. Examination of regional, state, and local economic development theory, analysis, policy and administration. (B)

**6455 (U P 6455) Discrimination and Fair Housing. (AFS 6455) (ECO 6455) (SOC 6455) (U S 6455) Cr. 3**

Prereq: senior or graduate standing. Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets (mortgage, insurance) in U.S. metropolitan areas. (B)

**6640 Statistics and Data Analysis in Political Science II. Cr. 3**

Prereq: P S 5630 or equiv. Modern statistical theory applied to the study of politics, administration, and public policy. Multivariate analysis: multiple regression, logistic regression, path analysis, and factor analysis. Material Fee as indicated in the Schedule of Classes. (Y)

**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. (F)

**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. (F)



**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. (W)

**6730 Topics in Nonprofit Organizations. Cr. 1-3**

Specific and varying topics relevant to nonprofit organizations and the nonprofit sector. (S)

**6799 (P S 4799) Topics in Comparative Politics. Cr. 3-4 (Max. 8)**

Prereq: P S 2710. Compelling and emerging issues; thematic topics such as democratization and other changes in political institutions; regional topics such as central Asia and other rapidly changing areas of global concern. Students in P S 6799 will be assigned additional graduate-level assignments (I)

**6830 Civil War and Conflict Processes. Cr. 3**

Undergrad. prereq: consent of instructor. 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. (W)

**6850 International Organizations. Cr. 3**

Undergrad. prereq: consent of instructor. Problem of cooperation in international relations: When does cooperation take place? Can it be institutionalized? Survey of major institutional theories; security and economic organizations. Student presentations. (W)

**6860 American Foreign Policy. Cr. 3**

Contending paradigms of realism and liberalism as they relate to programs for American foreign policy. (Y)

**6870 (LEX 7888) United States Foreign Relations Law. Cr. 4**

Prereq: P S 5110, P S 5820, or consent of instructor. 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. (Y)

**6899 Topics in World Politics. Cr. 3 (Max. 9)**

Prereq: graduate standing. Coverage of compelling and emerging issues, ranging from global public policy to detailed analysis of global organization and international political economy; issues of globalization. (B)

**7030 American Political Processes. Cr. 3**

Political socialization, public opinion, and political behavior. Role of political parties and interest groups in the political process. (B)

**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. (B)

**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. (Y)

**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. (Y)

**7099 Topics in American Politics. Cr. 3**

Topics chosen by faculty; may include: gender politics, political socialization, voting behavior, political parties, and interest groups. (I)

**7100 (PCS 7100) Peace Making: Regional, Technological, Transnational. (P S 7100) Cr. 3**

Prereq: graduate standing or consent of instructor. The prerequisites for peaceful and secure borders and peace settlements. (W)

**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. (B)

**7230 Suburban Paradise: The Suburb in American Society. (U P 7230) Cr. 3**

History of suburban development, nature of suburban society, and suburban politics. (W)

**7240 Urban Public Policy. (U P 7650) 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. (B)

**7250 Seminar in Urban Administration. (U P 7250) 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. (B)

**7260 (U P 7260) Urban Poverty and Racial Segregation. (AFS 6600) (ANT 7260) (SOC 7350) Cr. 3**

Prereq: graduate standing. Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on the 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. (B)

**7300 Public Administration and its Environment. (U P 7550) 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. (Y)

**7310 Public Management Internship. Cr. 3**

Prereq: twenty-one credits in public administration and consent of departmental M.P.A. program director. Open only to public administration graduate students. 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. (T)

**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. (Y)

**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. (Y)

**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. (Y)

**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. (Y)

**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. (Y)

**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. (Y)

**7420 Normative Issues in Public Policy. Cr. 3**

Exploration of the normative foundations and implications of public policy issues. (B)

**7430 Health Care Policy in the United States. Cr. 3**

Evolution of health care policy in the United States; current health programs, their social consequences and possible alternatives. (Y)

**7440 Public Policy and the Aged. Cr. 3**

Analysis and evaluation of public policy issues involving government's role and programs in relation to senior citizens. (B)

**7460 Program Evaluation. Cr. 3**

Prereq: P S 5630 or equiv. 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, benchmarking; utilization of evaluation. (B)

**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. (Y)

**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. (B)

**7560 Contemporary Political and Social Theory. Cr. 3-6**

Prereq: graduate standing. Analysis of selected major problems, topics, and themes in recent political and social theory. (B)

**7580 Political Theory of Public Law. (LEX 7659) 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. (Y)

**7610 The Political Science Profession. Cr. 1**

Prereq: graduate standing. Offered on a pass / no-pass basis only. Professional development for careers in teaching and research in political science. (Y)

**7620 (SOC 7220) Seminar in Survey Research Methods. (ANT 7220) Cr. 3**

Prereq: advanced undergraduate or graduate training in general research methods and statistics; open to upper level undergraduates with consent of instructor. 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. (F)

**7630 Seminar in Quantitative Research Methods. Cr. 3**

Prereq: P S 5630 or equiv. Open to undergraduates only with consent of instructor. Further approaches to the classical linear regression model and its shortcomings. Review of advanced methods sufficient to remedy shortcomings; overview of software and tools for illustration of empirical results obtained from these methods. (I)

**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. (B)

**7660 Research Methods in Policy and Politics. Cr. 3**

Prereq: P S 5630 or equiv. 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. (Y)

**7680 Research Seminar in Political Science. Cr. 3**

Prereq: P S 7660 or equiv. Original research in selected topics in political science carried out under the supervision of the instructor. Projects developed and shared in seminar. Focal topics or themes determined by instructor. (B)

**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. (Y)

**7711 Advanced Seminar in Comparative Politics. Cr. 3-6 (Max. 6)**

Prereq: graduate standing. Analysis of selected major issues, topics, and debates in the field. (B)

**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. (I)

**7740 Political Economy. Cr. 3**

Seminar course; comprehensive survey of political economy: interaction between the government and the economy; microeconomics of politics. (B)

**7810 Seminar in World Politics. Cr. 3 (Max. 9)**

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. (B)

**7811 Advanced Seminar in World Politics. Cr. 3 (Max. 6)**

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. (B)

**7850 (D R 7100) Roots of Social Conflict. Cr. 3**

Prereq: graduate standing. 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. (Y)

**7995 Directed Study. Cr. 1-6**

Prereq: fifteen graduate credits in political science; written consent of chairperson and graduate advisor. (T)

**7997 Research in Political Science. Cr. 1-9**

Open only to students admitted to doctoral study. Prereq: consent of advisor. (T)

**7999 Master's Essay Direction. Cr. 1-3 (3 req.)**

Prereq: consent of advisor. (T)

**8000 Readings in Political Science. Cr. 3 (Max. 6)**

Prereq: consent of advisor. (T)

**8350 Seminar in Public Administration. Cr. 3 (Max. 6)**

Prereq: twelve credits in public administration. Examination of current trends and problems in the organization and management of public organizations. (I)

**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. (B)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: P S 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following P S 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: P S 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following P S 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: P S 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following P S 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in P S 9991- P S 9994. Offered for S and U grades only.

# Psychology

Office: 7th floor, 5057 Woodward; 313-577-2800

Chairperson: R. Douglas Whitman

Associate Chairperson: Marcus W. Dickson

Undergraduate Academic Advisor: Shelly Seguin

Website: <http://www.clas.wayne.edu/psychology/>

## Professors

Antonia Abbey, Ernest L. Abel, Sheldon Alexander (Emeritus), John Arnold (Research), David Asdourian (Emeritus), Boris B. Baltes, Douglas Barnett, Alan R. Bass (Emeritus), Donald V. Coscina (Emeritus), Marcus W. Dickson, Donald N. Elliott (Emeritus), Ira J. Firestone, Joseph M. Fitzgerald, John Hannigan, M. Marlyne Kilbey (Emerita), Sheldon G. Levy, Peter Lichtenberg, Mark Lumley, Lisa Rapport, Hilary Ratner, Naftali Raz, Annette U. Rickel (Emerita), Paul Toro, Glenn E. Weisfeld, R. Douglas Whitman

## Associate Professors

Marjorie Beeghly, George Borszcz, Scott Bowen, Rita Casey, Kenneth Davidson (Emeritus), Thomas Fischer, Sebastiano Fisicaro, Winifred R. Fraser (Emeritus), Melissa G. Kaplan-Estrin (Emerita), Jeffrey G. Kuentzel, Cary M. Lichtman, Scott Moffat, Robert Partridge, Sarah Raz, Michael M. Reece (Emeritus), Valerie Simon, Patricia Siple, John Woodard, Annmarie Cano Wurm, Lee Wurm

## Assistant Professors

Marla Bartoi, Timothy Bogg, Justin Carre, Emily Grekin, Jason Huang, Lara L. Jones, Jeffrey G. Kuentzel, Alyssa McGonagle, Rusty McIntyre, Richard B. Slatcher, Ann M. Stacks, Michelle Tomaszycycki, Christopher Trentacosta

## Senior Lecturer

Margo Bowman

## Adjunct Professors

Kenneth Adams, Naomi Breslau, Mark Greenwald, Gisela Labouvie-Vief, Brian Lakey, Timothy Roehrs

## Adjunct Associate Professors

Bradley Axelrod, Mark Ketterer, Helene Lycaki

## Adjunct Assistant Professors

Linda Angell, Rinat Armony-Sivan, Rebecca Baird, Jesse Bell, Jay Cohen, Allan Dehorn, Grenae Dudley, Melissa Franks, Robin Hanks, Lisa Fruchtman, Brynda Holton, Mark Kelland, Joan Lessen-Firestone, Ira Lourie, Michael Marsiske, Scott Millis, Lynn Pantano, Steven Putnam, Kenneth Reeder, Robert Rothermel, William Schafer, Richard Smith, Barry Tanner

## Graduate Degrees

*MASTER OF ARTS with a major in Psychology (open only to students admitted to the doctoral program)*

*MASTER OF ARTS with a major in Industrial and Organizational Psychology*

*DOCTOR OF PHILOSOPHY with a major in Psychology and specializations in behavioral and cognitive neuroscience; clinical; industrial/organizational; and cognitive, developmental, and social psychology*

## Master of Arts with a Major in Industrial and Organizational Psychology

This program is designed for students interested in pursuing advanced training in applied workplace psychology. This includes (a) job analysis and the development and validation of personnel selection and performance appraisal systems, (b) the implementation and evaluation of employee and management training and development programs, (c) enhancing employee motivation and morale, and (d) related activities that employ psychological principles and practices to increase organizational effectiveness.

Unlike the Master of Arts with a Major in Psychology, this program is NOT a transitional program leading to doctoral degree candidacy.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Students may enter the program in either the fall, winter, or spring/summer semester. The application deadline for the fall semester is June 15, for the winter semester, October 15, and for the spring/summer semester, March 15. To be considered for admission, an applicant's background should include a minimum undergraduate upper division cumulative grade point average of 3.00, a course in introductory psychology, and a course in statistics, and he or she should present their scores from the general portion of the GRE test taken within five years of application. To obtain more information about this program, contact the Department of Psychology, 7th Floor, 5057 Woodward Ave., Detroit, Michigan 48202 (313-577-2800), or access the Psychology Department website at <http://www.clas.wayne.edu/psychology/>.

**DEGREE REQUIREMENTS:** The Master of Arts in Industrial/Organizational Psychology is offered only as a Plan C option: thirty credits of coursework with no thesis or essay.

### REQUIRED COURSES INCLUDE:

- PSY 6500 -- Advanced Psychological Statistics: Cr. 3
- PSY 6510 -- Organization Theory: Cr. 3
- PSY 6520 -- Organizational Behavior: Cr. 3
- PSY 6535 -- Psychometric Theory: Cr. 3
- PSY 6550 -- Training and Employee Development: Cr. 3
- PSY 7500 -- Research Methods in Indus./Org. Psychology: Cr. 3
- PSY 7745 -- Job Analysis and Performance Criteria: Cr. 3
- PSY 7750 -- Organizational Staffing: Cr. 3
- PSY 7770 -- Testing in the Workplace: Cr. 3
- PSY 7790 -- Capstone Course: Cr. 3.

## Master of Arts with a Major in Psychology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18.

Only students who have been admitted to the doctoral program in psychology may elect to earn this master's degree; hence all candidates are considered as doctoral applicants.

Applicants holding bachelor's degrees, master's degrees, and/or other advanced degrees will be considered for admission. At the undergraduate level, applicants must have earned a 3.0 or better average in psychology courses and in total course work. A minimum of twelve semester credits in psychology is required and must include a laboratory course and a statistical methods course in psychology. Courses in college mathematics and biology and familiarity with computers are highly recommended. The general Graduate Record Examination (GRE) is required.

### DEGREE REQUIREMENTS

The Master of Arts with a major in psychology is offered only as a Plan A master's program requiring thirty-two credits including an eight-credit thesis. In addition to the thesis, a minimum of twenty-four credits in psychology is required and must include PSY 7150 and

PSY 7160 and one of the following: PSY 7010, 7080, 7090, 7120, 7250, 7400, 7590, and 7620.

Emphasis is placed on factual knowledge, theory, and research methods in general psychology. The thesis involves the use of laboratory or field data and must be approved by the advisor and two other committee members approved by the Departmental Graduate Committee. A final oral examination pertaining to the thesis is required.

All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

## Doctor of Philosophy with a Major in Psychology

**Admission:** Because the doctoral degree offered by this department is viewed as a continuation of the Master of Arts degree program in psychology, students are expected to earn the M.A. degree or complete a master's-equivalent project as a preliminary stage in doctoral study. The work of students who hold advanced degrees when they enter this program will be evaluated to determine the extent to which it satisfies the requirements of the M.A. degree in psychology.

Applicants must complete a Psychology Department application form and provide general GRE test scores, at least three letters of recommendation, and a statement of purpose in addition to the transcripts and application form required by the Graduate School. Appropriate forms and instructions are available from the Graduate Office of the Department of Psychology. Students will not be considered for admission until all of the above have been received and evaluated. All forms for applicants intending to pursue doctoral work are due by December 15. Applicants will be notified of the admission committee's decision on or about March 15.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279. All graduate students are expected to maintain at least a 'B' average. Students receiving grades of 'B-minus' or below in more than two courses will be dropped from the doctoral program. No more than two courses at the 6000 level may be applied toward credit for the doctoral degree.

### DEGREE REQUIREMENTS

The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credits (see below). Additionally, in order that students may acquire a broad background in the factual and theoretical content of psychology, five substantive courses are required of all doctoral candidates: PSY 7150 and 7160, *plus* one additional quantitative analysis course and two of the following outside the student's major area: PSY 7010, 7080, 7090, 7120, 7250, 7400, 7590, 7620. Each student is expected to select a major and minor area of specialization from among the following list. (Alternate minor areas may be developed in consultation with relevant faculty, subject to the approval of the Department Graduate Committee.)

**BEHAVIORAL AND COGNITIVE NEUROSCIENCE:** This interdisciplinary research and training program prepares students for positions in research and teaching in many areas of neuroscience, including functional cognitive neural imaging, neural physiology, behavioral pharmacology, neurobehavioral teratology, and affective neuroscience. Academic training is provided through foundation courses, specialized seminars, and intensive participation in mentored research based on one-to-one working relationships with faculty members.

**CLINICAL PSYCHOLOGY:** This training program is accredited by the American Psychological Association and educates students as scientist-practitioners. Students are prepared for a wide range of

careers, including research, teaching, clinical practice, and administration. In addition to the basic departmental course requirements for a doctoral degree, students also take courses in professional ethics, psychopathology, psychological assessment, psychological interventions, and other coursework consistent with APA accreditation. Requirements also include an empirical master's thesis and doctoral dissertation, as well as supervised clinical training in assessment and treatment of clients in our training clinic, external placements, and an internship. Special opportunities for training and research in neuropsychology, child psychology, health psychology, and community psychology are available in the clinical program, with faculty in other areas of the department, and in the community.

#### **COGNITIVE, DEVELOPMENTAL, AND SOCIAL PSYCHOLOGY:**

This area is oriented toward the interests of students pursuing degrees in cognitive, developmental, and social psychology. Students are encouraged to take an interdisciplinary approach to research and tailor their coursework so that it corresponds to their personal field of research. Students can also integrate their disciplinary focus with health psychology. The cognitive program focuses on fundamental research on human cognition and its application to educational and human factors settings including: speech perception; attention; memory; psycholinguistics; sign language and deafness; and gerontological studies of memory. The developmental program emphasizes the life-span perspective, within which students may specialize in social-emotional development, developmental psychobiology, or applied developmental psychology. Developmental research areas include early childhood temperament, development in high risk families, normative social investment in emerging adulthood, cross-cultural research with an evolutionary perspective, and cognitive interventions with older adults. The social program focuses on theory-based fundamental and applied research in which students are trained in experimental and survey research methods. Social research areas are broad in scope, and include psychosocial and personality factors that influence health, alleviating negative stigmatization, sexual violence, social cognition, social support, social neuroscience, substance abuse, and attitude representation and change.

**INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY** offers concentration in Personnel Psychology (including such topics as criterion development, performance evaluation, and personnel selection) and Organizational Psychology (including such topics as employee training and development, motivation and morale, and leadership and executive development). Opportunities exist for field experience in a variety of local and national corporations.

**Residence:** All new doctoral students must enroll for their *first academic year* on a full-time basis. Students must complete at least six three-credit courses, exclusive of research and thesis credits, during the first year. Any incompletes in these six courses must be removed prior to the fall semester of the second year.

**Examinations:** The qualifying examination, a written examination covering the student's major area, is required. It is normally taken after completion of the master's thesis and sixty credits in graduate coursework.

**Training, Teaching, and Research:** Doctoral students are required to participate in a training assignment each academic year they are in residence. This is required of all full-time students, irrespective of whether the training assignment includes a stipend. The student's area committee is responsible for seeing that this requirement is met each year. The training assignment involves appropriate teaching, research (other than thesis or dissertation research) or professional activities.

**Dissertation Research:** The thirty credit dissertation registration requirement is fulfilled by registering for the courses PSY 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

## Financial Support

General sources of financial aid for graduate students may be found in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

Fellowships, tuition scholarships, internships, and teaching and research assistantships in the Department of Psychology, other departments of Wayne State University, and a variety of affiliated agencies and institutions are available to qualified students. Information about application procedures is available in the Psychology Graduate Office.

## GRADUATE COURSES (PSY)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

#### **5020 Research Methods in Psychology: Honors. Cr. 3**

Prereq: admission to honors major program. Basic principles of research design in psychology: reliability and validity of measurement of psychological constructs, experimental design, control for confounding in correlation studies, multivariate analysis. (Y)

#### **5030 Evolutionary Psychology of the Emotions. (PSY 7030) Cr. 3**

Undergrad. prereq: PSY 1010 or 1020; grad. prereq: graduate standing or consent of instructor. No credit for PSY 7030 after PSY 5030. Functional analysis of basic human emotions: their elicitors, affects, expressions, visceral changes, overt behaviors, neural bases, development, and normal and pathological variation. (I)

#### **5040 Cognitive Neuroscience. Cr. 3**

Prereq: PSY 3080 or PSY 3120. 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. (I)

#### **5050 Physiological Psychology. Cr. 3**

Prereq: PSY 1010 or 1020. Physiological mechanisms underlying behavior and mental processes: sensory-motor mechanisms; integrative action of the nervous system; neuro-physiological mechanisms involved in emotional behavior, learning and memory; influences of hormones on behavior. (F,W)

#### **5070 Bio-behavioral Bases of Drug Action. Cr. 3**

Prereq: PSY 3120 or 5050 or equiv., or BIO 1020 or equiv. Physiological and behavioral bases of drug action, with emphasis on brain neurotransmitters, psychopharmacology, and substance abuse disorders. (I)

#### **5080 Cellular Basis of Animal Behavior. (BIO 5080) 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. (W)

#### **5100 Applied Statistics in Psychology. Cr. 4**

Prereq: PSY 3010 or equiv. or consent of instructor. General linear model, coding techniques, multiple correlation and regression, analy-

sis of variance and covariance, planned and post hoc tests, use of statistical computer packages. (W)

**5490 The Aging Individual in Society. Cr. 3**

Prereq: PSY 1010 or 1020. Biological, social, and psychological theories of aging; time-associated changes in behavior; personality changes in later life; social and personal adjustment and psychopathology in later life. (I)

**5700 (AFS 5700) The Psychology of African Americans. Cr. 4**

Prereq: upper division standing. 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. (T)

**5710 (PCS 5000) Dispute Resolution. (CRJ 5994) (P S 5890) Cr. 3**

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. (Y)

**6010 (ELE 6010) Family Centered Collaboration in Early Childhood Intervention and Special Education. (O T 6150) (S W 6010) 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. (F)

**6020 (P S 6010) Political Psychology. Cr. 3**

Prereq: P S 1010 or equiv. Political attitudes and behavior of both ordinary citizens and political elites using theory and research that adopts 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. (Y)

**6200 Development of Memory. Cr. 3**

Prereq: PSY 3080 and 2400 or equiv.; and consent of instructor for undergraduates. Major theoretical models of memory development will be discussed and used to explore various aspects of the memory process from infancy to adulthood. (I)

**6270 (NFS 6270) Eating Behavior and Body Weight Regulation. Cr. 3**

Prereq: BIO 2870. 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. (W)

**6420 Psychology of Infant Behavior and Development. (PSY 7425) Cr. 3**

Prereq: graduate standing, or PSY 2400 and consent of instructor. 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. (F)

**6490 Developmental Psychology of Death, Dying and Lethal Behavior. Cr. 3**

Prereq: PSY 1010 or 1020. Changing relationship to death and finitude throughout the life-cycle; development and function of death cognitions, factors predisposing toward suicide and other premature deaths at various age levels, and the dying process. (I)

**6500 Advanced Psychological Statistics. Cr. 3**

Prereq: PSY 3010 or equiv.; admission to I/O M.A. program. 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. (F)

**6510 Organization Theory. Cr. 3**

Prereq: PSY 2100 or equiv., or consent of instructor. Not open to psychology doctoral students. Work organization theories, and history of social modeling; classical, neoclassical, and open system of contingency theories. (Y)

**6520 Organizational Behavior. Cr. 3**

Prereq: PSY 2100, or consent of instructor. Not open to psychology doctoral students. Employee motivation, job attitudes, leadership and management development; related aspects of organizational behavior, design and development. (Y)

**6535 Psychometric Theory. Cr. 3**

Prereq: PSY 6500 or equiv.; admission to industrial and organizational psychology M.A. program. Development, validation, and use of psychological tests and other psychological instruments. Origins and value of psychological testing. (W)

**6540 Organizational Staffing. Cr. 3**

Prereq: PSY 2100 or equivalent industrial/organizational psychology course with consent of instructor. Not open to psychology doctoral students. Job analysis, recruitment and screening, prediction and measurement of job performance, selection procedures, principles and methods of testing and measurement. (I)

**6550 Training and Employee Development. Cr. 3**

Grad. prereq: graduate standing; undergrad. prereq: PSY 2100 or equivalent industrial/organizational psychology course with consent of department. Not open to psychology doctoral students. Theory and practice of organizational training, employee development, and management development; establishment of performance standards, performance appeal process, evaluation of training and development programs. (I)

**6570 Research Methods in Industrial/Organizational Psychology. Cr. 3**

Prereq: one semester of statistics comparable to PSY 3010. Not open to psychology doctoral students. Field and lab research methods for workplace settings. (I)

**6710 Psycholinguistics. (LIN 6710) Cr. 3**

Prereq: graduate standing or undergraduates with a strong psychology or linguistics background. Theory and research in various topics in psycholinguistics, including language development, speech perception and production, and language comprehension. (I)

**6995 Advanced Special Topics. Cr. 0-3 (Max. 6)**

Prereq: senior standing; psychology major with 3.0 g.p.a. or honors program seniors. S and U grades only when offered for zero credit. Topics to be announced in Schedule of Classes. (I)

**7010 History and Systems of Psychology. Cr. 2-3**

Prereq: admission to graduate program in psychology or consent of instructor. 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. (F,S)

**7020 An Integrative Approach to Social, Cognitive and Developmental Psychology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Integration of three major topics in psychology. (B:F)

**7030 (PSY 5030) Evolutionary Psychology of the Emotions. Cr. 3**

Undergrad. prereq: PSY 1010 or 1020; grad. prereq: admission to graduate program in psychology or consent of instructor. No credit for PSY 7030 after PSY 5030. Functional analysis of basic human emotions: their elicitors, affects, expressions, visceral changes, overt behaviors, neural bases, development, and normal and pathological variation. (I)

**7080 Human Cognition. Cr. 3**

Prereq: admission to graduate program in psychology, or consent of instructor. Unified approach to human cognitive activity, including perception, attention, memory, language, concepts, and problem solving. (Y)

**7090 Theories of Learning. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Systematic examination of learning theories. (Y)

**7120 Biological Basis of Behavior. Cr. 3**

Prereq: admission to the graduate program in psychology or consent of instructor. Major literature relating the anatomy of the nervous system to psychological processes. (Y)

**7150 Quantitative Methods in Psychology I. Cr. 4**

Prereq: PSY 3010 or equiv. statistics course with consent of instructor; or admission to graduate program in psychology. 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. (W)

**7160 Quantitative Methods in Psychology II. Cr. 4**

Prereq: PSY 7150 and admission to graduate program in psychology or written consent of instructor. Multiple regression and analysis of covariance. Psychometric theory and psychological measurement. (W)

**7180 Research Design and Methodology. Cr. 3**

Prereq: PSY 7160; admission to graduate program in psychology or consent of instructor. Measurement, design and analysis problems typically encountered in behavioral research. A large set of selected research problems will be considered through student presentations and class discussions. (Y)

**7200 Psychological Assessment I. Cr. 4**

Prereq: admission to graduate program in clinical psychology. 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. (F)

**7210 Psychological Assessment II. Cr. 4**

Prereq: PSY 7200, admission to graduate program in clinical psychology. 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. (W)

**7230 Assessment Practicum. Cr. 0-2 (Max. 6)**

Prereq: admission to graduate program in clinical psychology. Offered for S and U grades only. Students conduct psychological assessments for three semesters at departmental training clinic; focus is on applied and professional aspects of adult and child psychological assessment, including supervision and weekly class, which covers applied issues in assessment and case presentations. (T)

**7240 Ethics, Professional Issues, and Diversity. Cr. 1 (Max. 3)**

Prereq: admission to graduate program in clinical psychology. Offered for S and U grades only. This course focuses on ethical principles as applied to practice, research, teaching, and human diversity. (F,W)

**7250 Theory of Personality. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Major approaches to the study of personality. Current psychological research and issues in the field; implications for psychotherapy and assessment. (Y)

**7270 Research Methods in Clinical Psychology. Cr. 3**

Prereq: admission to graduate program in clinical psychology or consent of instructor. Survey of types of questions asked in the science of clinical psychology; methods proceeding from these questions. Descriptive and experimental methods, clinical trials, field study, application of research findings to evidenced-based practice. (W)

**7300 Psychopathology. Cr. 3**

Prereq: admission to graduate program in clinical psychology or consent of instructor. Basic psychological concepts of psychopathology with a focus on adult disorders. Current theory and research and their implications for clinical practice. (F)

**7310 Developmental Psychopathology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. 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. (T)

**7330 Clinical Neuropsychology. Cr. 3**

Prereq: PSY 7120; admission to graduate program in psychology or consent of instructor. History of the development of clinical neuropsychology. Current perspectives of theory and empirical foundations of neuropsychological assessment. (Y)

**7340 Neuropathology and Behavior. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Discussion of the current state of neuropathology and its cognitive consequences. (B)

**7370 Psychological Interventions I. Cr. 3**

Prereq: PSY 7300 and admission to graduate program in clinical psychology. Survey of intervention development, theory and research; focus on empirically-supported individual psychotherapy for adults and evidenced-based therapeutic processes. (F)

**7380 Psychological Interventions II. Cr. 3**

Prereq: PSY 7370 and admission to graduate program in clinical psychology. Survey of intervention development, theory and research; focus on evidence-based interventions for children and adolescents as well as systems (families, groups, communities). (W)

**7400 Introduction to Life-Span Developmental Psychology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Theory, methods and selected content areas; cognitive and social development as they relate to the entire life cycle. (T)

**7401 Developmental Psychobiology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. No credit after PSY 7400 except by consent of instructor. Development of human behavior over the lifespan. Interaction of biological factors (genes, hormones, brain) with prenatal and postnatal experience. Introduction to several theories, especially human ethology, evolutionary psychology, and behavioral genetics. (I)

**7420 Attachment Relationships Across the Lifespan. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Current theory and research on human attachment relationships across the lifespan. Major research paradigms; application of attachment for parenting, childcare, intervention, and therapy. (I)

**7425 Psychology of Infant Behavior and Development. Cr. 3**

Prereq: graduate standing, or PSY 2400 and consent of instructor. Prenatal development and infancy through the toddler years. Major theoretical positions and research relating to motor, perceptual, cog-

nitive, language, social, and emotional development. Implications for parenting, programming, and care. (F)

**7430 Developmental Assessment of Infants and Toddlers. Cr. 3**

Prereq: PSY 6420 or PSY 7400; admission to graduate program in psychology or written consent of instructor. No credit after PSY 6470. Overview of assessment methods; training in administration of the Bayley Scales of Infant development. (Y)

**7440 Cognitive Development. Cr. 3**

Prereq: PSY 7400; admission to graduate program in psychology or consent of instructor. Current theoretical perspectives and related research on cognitive development in childhood; topics include cognition, memory, concepts, and language. (I)

**7450 Social Development Across the Life-Span. Cr. 3**

Prereq: PSY 7400; admission to graduate program in psychology or consent of instructor. Recent perspectives on the psychological and environmental factors affecting social development across the life-span. (B)

**7460 Developmental Psychology of Adolescence. Cr. 3**

Prereq: PSY 7400; admission to graduate program in psychology or consent of instructor. Functional interpretations of physiological, psychological and social changes of adolescence. Biological and anthropological perspectives on sex roles. (I)

**7470 Interdisciplinary Research Methods in Social, Cognitive and Developmental Psychology. Cr. 3**

Prereq: PSY 7020; admission to graduate program in psychology or consent of instructor. Advanced survey of research design methods and issues across a broad array of social and behavioral fields, including cognitive, developmental and social psychology. (B:W)

**7480 Psychological Development in the Adult Years. Cr. 3**

Prereq: PSY 7400; admission to graduate program in psychology or consent of instructor. A life-cycle approach to the adult years, covering biological, social, and psychological changes with age. Lectures, discussion, and individual research projects on salient issues in adult development. (I)

**7490 Developmental Psychology of Later Life. Cr. 3**

Prereq: PSY 7400 or consent of instructor. Later years of human life from the perspective of developmental psychology; attention to viewpoints in biology, sociology. Personality structure and phenomenological life, and the possibilities of continuous psychological development. (I)

**7500 Research Methods in Industrial/Organizational Psychology. Cr. 3**

Prereq: PSY 7150; admission to doctoral program in industrial/organizational psychology or consent of instructor. Required of all first-year students in industrial and organizational program. Analysis of methodology and research design problems in the field of industrial psychology; discussion of professional and ethical problems. (Y)

**7510 Criterion Development and Performance Evaluation: Theory and Research. Cr. 3**

Prereq: admission to doctoral program in industrial/organizational psychology or consent of instructor; prereq. or coreq: PSY 7160 and 7500. Nature and kinds of criteria of job performance; development and measurement of criteria; problems and issues in performance evaluation and appraisal. (Y)

**7520 Selection and Placement: Theory and Research. Cr. 3**

Prereq: PSY 7510; admission to doctoral program in industrial/organizational psychology or consent of instructor. 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. (Y)

**7550 Psychological Analysis of Organizations. Cr. 3**

Prereq: admission to doctoral program in industrial/organizational psychology or consent of instructor. Required of all first-year graduate students in industrial and organizational program. Psychological concepts of conformity, role, leadership, communication conflict, decision making and bargaining in organizational behavior. (Y)

**7560 Theory and Research on Leadership and Executive Development. Cr. 3**

Prereq: PSY 7500; admission to doctoral program in industrial/organizational psychology or consent of instructor. Selected leadership research studies; theories relating to leadership; principles of training and development. (Y)

**7570 Theory and Research on Industrial Motivation and Morale. Cr. 3**

Prereq: PSY 7500; admission to doctoral program in industrial/organizational psychology or consent of instructor. 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. (Y)

**7580 Theory and Research on Organizational Change and Development. Cr. 3**

Prereq: PSY 7500, 7550; admission to doctoral program in industrial/organizational psychology or consent of instructor. Presentation of the major theoretical approaches and frameworks in the area of organizational development; critical evaluation of the relative effectiveness of organizational interventions based on these approaches. Relevant conceptual, professional, ethical and methodological issues. (I)

**7590 Industrial and Organizational Psychology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Lecture, discussion, analysis of articles and chapters, in-class exercises. (F)

**7610 Research Seminar in Social Psychology. Cr. 3**

Prereq: PSY 7150 and 7620; admission to graduate program in psychology or consent of instructor. Research design and methodology in social psychology, focusing on measurement issues, data collection techniques and results interpretation issues in both laboratory and field research settings. (I)

**7620 Social Psychology: Research and Theory. Cr. 3**

Prereq: PSY 2600 or equiv.; admission to graduate program in psychology or consent of instructor. Graduate-level introduction to the major theoretical and research areas of social psychology; current issues and research. (F)

**7645 Social Psychology of Close Relationships. Cr. 3**

Prereq: PSY 7620 or consent of instructor. Social Psychological theory and research that examines the dynamics of close relationships, including relationship formation, maintenance, enhancement, and dissolution. (B)

**7650 Social Psychology of Justice, Equity, and Fairness. Cr. 3**

Prereq: PSY 7620; admission to graduate program in psychology or consent of instructor. Contemporary theory and research on psychology of justice, fairness, and equity in interpersonal, group, and organizational settings. Distributive procedural, interactional, organizational justice. (Y)

**7670 Attitude Theory and Attitude Change. Cr. 3**

Prereq: PSY 7620 or equiv.; admission to graduate program in psychology or consent of instructor. Review of research and theory relevant to understanding processes of attitude formation and change. Measurement issues and structure of attitudes; role of attitudes in prediction of behavior. (I)



**7680 Environmental Psychology and Interpersonal Processes. Cr. 3**

Prereq: PSY 7620 or equiv.; admission to graduate program in psychology or consent of instructor. Theory and research pertaining to transactions between individuals and groups, and the physical environmental context in which they function. (I)

**7690 Personality Dynamics and Interpersonal Processes: Models and Research. Cr. 3**

Prereq: PSY 7620 or equiv.; admission to graduate program in psychology or consent of instructor. Study of the influence of personality dynamics on interpersonal processes; for example, the relationship between ego strength and capacity for intimacy. Interpersonal distancing theories are stressed. (I)

**7710 Research Strategies for Social and Behavioral Science. Cr. 3**

Prereq: PSY 7160; admission to graduate program in psychology or consent of instructor. Advanced psychological research methods and design, focusing on social and behavioral research. (Y)

**7740 (PSL 7740) Developmental Systems in Reproductive Biology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Theoretical foundations course in development, emphasizing contemporary developmental systems theory and its relevant applications to biology. (W)

**7745 Job Analysis and Performance Criteria. Cr. 3**

Not open to psychology Ph.D. students. Prereq: admission to I/O psychology M.A. program or consent of instructor. Job analysis methods, criterion development, and performance appraisal. (F)

**7750 Organizational Staffing. Cr. 3**

Prereq: PSY 7740, admission to I/O psychology M.A. program or consent of instructor. Not open to psychology Ph.D. students. Recruitment, screening, and personnel selection. (W)

**7770 Testing in the Workplace. Cr. 3**

Prereq: PSY 6500, PSY 7750, admission to I/O psychology M.A. program or consent of instructor. Test development; in-depth discussion of existing tests. Material fee as indicated in the Schedule of Classes. (S)

**7790 Capstone Course. Cr. 3**

Prereq: admission to I/O psychology M.A. program or consent of instructor. Not open to students in I/O psychology Ph.D. program. Special topics in I/O psychology. Students write a major paper or conduct an individual project. (W)

**7891 Teaching of Psychology. Cr. 1**

Prereq: admission to graduate program in psychology or consent of instructor. Preparation for teaching psychology courses at college or university level. Topics include: approaches to teaching, theories of instruction/learning, classroom climate, use of media, grading/exams. (W,S)

**7892 Practicum in the Teaching of Psychology. Cr. 2**

Prereq: admission to graduate program in psychology or consent of instructor; prereq. or coreq: PSY 7891; coreq: to be elected while teaching a WSU psychology course. Offered for S and U grades only. Classroom observation and supervision of teaching by students. Students learn techniques for class assessment, active learning, and teaching portfolio preparation. (S)

**7950 First-Year Research Seminar in Psychology. Cr. 1**

Prereq: admission to graduate program in psychology or consent of instructor. Open only to first-year doctoral candidates in Psychology Department. Finding a research topic, conducting a literature search, designing a study, human subject and animal welfare considerations, preparing a manuscript, professional issues. (W)

**7990 Directed Study. Cr. 1-9 (Max. 9)**

Prereq: admission to graduate program in psychology or written consent of instructor, advisor and graduate officer. 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. (T)

**7991 Current Topics in Behavioral Neuroscience. Cr. 1 (2 req.)**

Prereq: admission to doctoral program in behavioral and cognitive neuroscience or consent of instructor. Discussion of current papers in the field. (F,W)

**7994 Current Topics in Cognitive, Developmental, and Social Psychology. Cr. 0**

Offered for S and U grades only. Seminar series for doctoral students in cognitive, developmental and social psychology. (F,W)

**7996 Research Seminar in Clinical Psychology. Cr. 1 (Max. 2)**

Prereq: admission to the graduate program in clinical psychology. Introductory seminar for first year students in clinical psychology. Both semesters required. (F,W)

**7997 Research Problems. Cr. 1-8 (Max. 32)**

Offered for S and U grades only. Prereq: written consent of instructor and advisor. Original research under direction of departmental staff. (T)

**7998 Field Practicum in Psychology. Cr. 1-6 (Max. 12)**

Prereq: admission to graduate program in psychology. Not open to students in Clinical Psychology Training Program; only four credits count toward Ph.D. degree. Practicum experience in an approved training facility. Supervision by faculty members. (T)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: consent of advisor. Not open to doctoral students. (T)

**8000 Clinical Internship. Cr. 1 (Max 3)**

Prereq: admission to graduate program in clinical psychology; consent of Director of Clinical Training. Approved placement in an APA accredited internship for a one- to two-year period. (Y)

**8040 Social Neuroscience. Cr. 3**

Prereq: PSY 3080 or PSY 2600 or PSY 5050 or equiv., and admission to graduate program in psychology or written consent of instructor. Neurobiology of social cognition. Topics include: social communication, decision making, group dynamics, face/race processing, action and gesture cognition, emotional processing, development. (I)

**8060 Functional Neuroanatomy. Cr. 0-4**

Prereq: PSY 5050 or equiv., and admission to graduate program in psychology or written consent of instructor. Anatomical features of the human nervous system; emphasis on relationship between neural structure and behavior. Material Fee as indicated in the Schedule of Classes. (Y)

**8065 Neurophysiology and Neural Plasticity. Cr. 3**

Prereq: PSY 8060, and admission to graduate program in psychology or written consent of instructor. Physiological and molecular properties of neurons and the relationship of neural plasticity to behavior and development. (F)

**8070 Psychopharmacology. Cr. 3**

Prereq: PSY 7120 or equiv., admission to graduate program in psychology or written consent of instructor. Psychological and biological bases of psychopharmacology; emphasis on preclinical models and development of treatments for psychological disorders. (B)

**8080 Memory and Brain. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Neurobiology underlying acquisition and storage of new information in the brain. (I)

**8140 Meta-Analysis. Cr. 2-3**

Prereq: PSY 7160 or consent of instructor. Use of quantitative techniques for summarizing research results in psychology. (S)

**8150 Multivariate Analysis in Psychology. Cr. 3**

Prereq: PSY 7160, admission to graduate program in psychology or written consent of instructor. 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 multivariate analysis of variance. (Y)

**8160 Advanced Experimental Design. Cr. 3**

Prereq: PSY 7160 and admission to graduate program in psychology or written consent of instructor. Block designs; Latin squares designs and fractional replications; quasi- and semi-experimental designs; analysis of covariance; analysis of variance for unbalanced designs; generalizability theory; log linear models, meta analysis and validity generalization; other current topics. (Y)

**8170 Structural Equation Modeling. Cr. 3**

Prereq: PSY 8150 or consent of instructor. Practical introduction to structural equation modeling. (S)

**8250 Professional Issues in Clinical Psychology. Cr. 1**

Prereq: admission to graduate program in clinical psychology, or consent of instructor. Issues such as cultural and human diversity, ethics, internship, external funding, practice and career options. (Y:W)

**8300 Health Psychology I. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Three major topics in behavioral approach to health and illness: physical disorders in which psychological and behavioral dysfunction play a major etiological role; psychological impact of acute and chronic physical illness; health and health behavior. (B)

**8310 Health Psychology II. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. 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. (B)

**8330 Advanced Clinical Neuropsychology. Cr. 3**

Prereq: PSY 7330, admission to graduate program in psychology or consent of instructor. History, research methodologies and current theories regarding brain-behavior relationships and neurological dysfunction. (Y)

**8340 Clinical Neuropsychological Assessment. Cr. 3**

Prereq: PSY 7210, PSY 7330, or PSY 8330; and admission to graduate program in clinical psychology. Review of principles and literature on neuropsychological assessment, common neuropsychological tests and test batteries, in context of actual clinical cases. (Y)

**8350 Community Psychology. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Current findings, theory, and research in the field of community psychology. Emphasis on current urban problems. (I)

**8390 Therapeutic Intervention Practicum. Cr. 3 (Max. 12)**

Prereq: PSY 7380; admission to graduate program in psychology or consent of instructor. Offered for S and U grades only. Students provide psychological interventions for three semesters to clients at the department training clinic, obtain weekly supervision with video-recording of cases, and attend weekly class focused on applied issues in intervention and case presentations.. (T)

**8400 Current Issues in Developmental Psychology. Cr. 3 (Max. 9)**

Prereq: admission to graduate program in psychology or consent of instructor. Integrative seminar in current theoretical and empirical issues. (I)

**8500 Seminar in Industrial/Organizational Psychology. Cr. 1-3 (Max. 10)**

Prereq: admission to graduate program in psychology or consent of instructor. For industrial/organizational psychology students. Current topics in industrial psychology; content varies. (I)

**8560 Models and Methods in Psychopharmacology. (PYC 7560) Cr. 3**

Prereq: PSY 7120, PSY 8060 or equiv.; PSY 3060 or equiv.; admission to graduate program in psychology or consent of instructor. Psychological and biological bases of psychopharmacology; emphasis on methods, models and theories in basic preclinical research. (B)

**8570 Clinical Psychopharmacology. Cr. 3**

Prereq: PSY 7120 and admission to graduate program in psychology or consent of instructor. Basic concepts, neurotransmitters/neuro-modulators, major psychotherapeutic drug classes, clinical applications. (B)

**8580 (PYC 7580) Substance Abuse. Cr. 3**

Prereq: admission to graduate program in psychology or consent of instructor. Pharmacological principles, research methods, and scientific data regarding understanding and control of substance abuse. Epidemiology, etiologic factors, research methods and ethics, health consequences, prevention strategies, psychiatric diagnosis and comorbidity, treatment, policy issues and controversies. (Y)

**8600 Seminar in Experimental Social Psychology. Cr. 3 (Max. 9)**

Prereq: PSY 7620 or equiv.; admission to graduate program in psychology or consent of instructor. Review and evaluation of the literature on some current topic of research or theoretical concern. (I)

**8620 Social Cognition. Cr. 3**

Prereq: PSY 7620 or consent of instructor. 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. (B:W)

**8680 Seminar in Physiological Psychology. Cr. 3 (Max. 9)**

Prereq: admission to graduate program in psychology or consent of instructor. Critical examination of contemporary research on selected topics concerned with relationships between physiological mechanisms and behavior. (Y)

**8720 Seminar in Cognitive Processes. Cr. 3 (Max. 15)**

Prereq: admission to graduate program in psychology or consent of instructor. Literature on special topics in human cognition including reading, speech perception, attention and memory. (I)

**8740 Seminar in Psychological Measurement and Statistics. Cr. 2-3 (Max. 9)**

Prereq: PSY 7160; admission to graduate program in psychology or written consent of instructor. 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. Current topics such as structural equation modelling. (I)

**8760 Seminar in Clinical Psychology. Cr. 1-3 (Max. 12 for psychology majors)**

Prereq: admission to graduate program in psychology or consent of instructor. New clinical methods and scientific developments in the

field of clinical psychology. Meets with continuing education seminars in clinical psychology. (T)

**8770 Advanced Clinical Practicum. Cr. 1 (Max. 9)**

Prereq: admission to graduate program in clinical psychology; consent of director of clinical training. Approved placement in clinical practicum site. (Y)

**8810 Program Evaluation. Cr. 3**

Prereq: PSY 7150, PSY 7160, admission to graduate program in psychology or consent of instructor. An introduction to the theories and methods of program evaluation in such areas as community psychology, mental health systems, criminal justice systems. (I)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSY 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSY 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSY 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSY 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSY 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSY 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PSY 9991- PSY 9994. Offered for S and U grades only.

# Sociology

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Interim Chairperson:

Heather E. Dillaway; email: [dillaway@wayne.edu](mailto:dillaway@wayne.edu)

Website: <http://www.clas.wayne.edu/Sociology/>

## Professors

Janet R. Hankin, Mary C. Sengstock, Mark Wardell, Leon H. Warshay

## Associate Professors

R. Khari Brown, Heather E. Dillaway, David Fasenfest, Heidi Gottfried,

## Assistant Professors

Zachary W. Brewster, Krista M. Brumley, David M. Merolla, Sarah C. Swider, Monica M. White

## Affiliated Faculty

Nicole Trujillo-Pagan

## Graduate Degrees

*MASTER OF ARTS with a major in Sociology*

*DOCTOR OF PHILOSOPHY with a major in Sociology*

The graduate programs offered by the Department of Sociology are designed to prepare students for professional careers in a variety of settings. These programs require substantial course work in the general areas of sociological theory and sociological research methods. In addition to this core required of all students, individual students have considerable flexibility in pursuing course work designed to concentrate on specific areas of substantive specialization in sociology which reflect the current interests and work of the departmental faculty.

**Academic Procedures:** All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 279, respectively.

## Master of Arts with a Major in Sociology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, new applicants to the sociology program must satisfy the criteria below. Applications are considered for admission to fall term only; all stages and materials in the application process must be completed by March 15. Materials required for admission include:

1. Transcripts of all previous collegiate work.
2. The Application for Graduate Admission, with all required information supplied.
3. Students must submit to the Graduate Committee three letters of recommendation, at least two of which should be from faculty members. Students filing Change of Status forms are also required to submit three letters of recommendation.
4. A one-page statement of interest.
5. A sample of written work.
6. The G.R.E. is required.
7. The TOEFL is required for all international applicants.

All students must apply via the online graduate application. To start the application process, visit <http://www.gradadmissions.wayne.edu/> (and then click on "How to Apply").

A grade point average of at least 3.3 in upper division courses, and in sociology courses, is required for admission to the Masters program. An undergraduate major in sociology is not an absolute requirement for admission, but an applicant should have a substantial background in sociology. Students who do not have an undergraduate degree in sociology are required to take as prerequisites: SOC 4050 (theory), SOC 4200 (methods), and SOC 4220 (Computing Applications). Prerequisite courses should be completed by the end of the first year of graduate studies, and prior to taking graduate-level theory and methods courses. Prerequisite courses do not apply to graduate credit, and must be successfully completed with a grade of 'B' or better.

**DEGREE REQUIREMENTS:** All students are required to complete Sociology 6050 or 6060, 6280, 7030, 7200, and to demonstrate computer literacy.

The Master of Arts degree with a major in Sociology offers two tracks: Plan A (the Masters thesis track) and Plan B (the Masters Essay track). Students seeking the Ph.D. degree should select Plan A.

**Plan A** requires thirty-two credits in course work including:

SOC 6280, 7200, 7030, 6050, 6060, 8999 (thesis, eight credits), and four credits in sociology electives. Plan A is recommended for students who plan to go on to the Ph.D. A final oral examination and public defense of the Master's thesis is required.

**Plan B** requires thirty-two credits in course work including:

Either SOC 6050 or 6060; SOC 6280, 7200, 7030, 7999 (essay, three credits); and thirteen credits in electives, at least ten of which must be in SOC courses. A final oral examination and public defense of the Master's essay is required.

## —with a Concentration in Applied Sociology and Urban Studies

This is an applied Plan B Master's program. The goal is to combine an intellectually stimulating academic experience with practical training for careers in public and private policy development, evaluation research, and administration. Students receive instruction in sociological theory and methodology (quantitative and qualitative), and first-hand experience in applied research and policy-related internships. The program is designed as a flexible course of study suitable for both full and part-time students, including those wishing to continue their education after some years of absence from the University, mid-career professionals seeking additional training, and post-baccalaureate students. Students electing this program are required to complete two applied sociology courses (SOC 6580 and SOC 6590) and an internship course (SOC 7000) as part of their thirteen elective credits.

**Admission:** See above under Master of Arts with a Major in Sociology.

**DEGREE REQUIREMENTS:** This concentration is offered only as a *Plan B* Master's program for which thirty-two credits are required. Required courses include Sociology 6050 or 6060, 6280, 6580, 6590, 7000, 7030, 7200, 7999, and two advanced courses within one major area of sociology. Students must demonstrate computer literacy.

## Doctor of Philosophy with a Major in Sociology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants must satisfy the criteria listed below. Applications are considered for new admissions to the fall term only; all stages and materials

in the application process must be completed by March 15. Applicants should have a 3.5 grade point average (g.p.a.) in their Master's degree work and at least a 3.5 g.p.a. in the aggregate of their methods and theory course requirements. Students who lack a Master's degree in Sociology, or have not yet completed the Master's requirements in sociology at the time of application, may not be admitted directly into the Ph.D. program. Students with a previous non-sociology Master's degree will be evaluated on a case-by-case basis and may be granted admission to the Master's program in sociology in order to take courses in preparation for the Ph.D. program. At a minimum, the following courses, or their equivalents, must have been completed before the student begins regular Ph.D. course work: Sociology 4050, 4200, 4220, 6050, 6060, 6280, 7030, and 7200.

If students are placed in the Master's program to complete preliminary coursework, they will need to apply for a "Change of Status" into the Ph.D. program once they have completed this coursework. It is important for students to know that this change of status is not automatic; the graduate admissions committee will evaluate students' grades in Master's-level courses when considering change of status applications. In addition, if Ph.D. applicants have not completed a thesis or other final research project in a previous social science Master's program, then they may be asked to complete the Department of Sociology Master's program in full before applying for a change of status into the Ph.D. program. Any questions about this policy should be directed to the Graduate Director in Sociology.

Materials required for Ph.D. admission include:

1. Transcripts of all previous collegiate work (both B.A. and M.A. degrees).
2. The Application for Graduate Admission, with all required information supplied.
3. Students must submit to the Graduate Committee three letters of recommendation, at least two of which should be from faculty members. Preferably, one recommendation letter should come from the student's Master's-level advisor. Students filing "Change of Status" forms are also required to submit three letters of recommendation.
4. A one-page statement of interest should be submitted to the Graduate Committee.
5. A sample of written work.
6. The Graduate Record Exam is required.
7. The TOEFL is required for all international applicants.

All students must apply via the online graduate application. To start the application process, visit <http://www.gradadmissions.wayne.edu/> (and then click on "How to Apply").

**DEGREE REQUIREMENTS:** The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. The thirty credit dissertation registration requirement is fulfilled by registering for the courses SOC 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Prior to electing Ph.D.-level courses, all doctoral students in sociology must complete the following prerequisite courses: Sociology 6050, 6060, 6280, 7030, 7200; and demonstrate computer literacy. Only two of these prerequisites (Sociology 6060, 7030) count toward the thirty credits required in Ph.D.-level courses. Required courses at the Ph.D. level include: SOC 7050 or 8060 (theory), SOC 7260 (qualitative sociology), six to nine credits in a cognate field, and eight to twelve credits in a specialization within sociology; and an additional course in methods, either qualitative (SOC 7500) or quantitative (SOC 6290). Ph.D. students are expected to complete all the M.A. and most of the Ph.D. level core courses in theory, methods, and statistics prior to taking at least two courses in their specialization. A written qualifying examination in the student's specialization area and an oral qualifying examination are required. In order to be allowed to take the written qualifying examination in the specialization area, Ph.D. students must have the

endorsement of both their faculty adviser and the specialization area chairperson indicating they have completed all required coursework as well as the two specialization area courses. After Ph.D. students have successfully passed their written qualifying examinations, the students' oral defense of the dissertation prospectus will serve as the oral qualifying examination. Doctoral applicants are required to have two successive semesters in residence as full-time students as defined by the Graduate School.

Doctoral students are encouraged to engage in teaching and research as a condition for qualifying for a degree.

Satisfactory Academic Progress Guidelines have been developed by the graduate committee in sociology in order to guide students towards successful completion of their Master's and Ph.D. degrees. Students should consult the Sociology Department website and/or the Graduate Director to access a copy of these guidelines. A detailed description of the doctoral program, including specific requirements and the list of specialization areas, is available on the Sociology Department website: <http://www.clas.wayne.edu/Sociology/>

## Assistantships

Sources of financial aid for graduate students are enumerated in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin.

A limited number of assistantships are available each year. Awards of assistantships are normally made on or about April 1 for the forthcoming academic year commencing in September. Application for assistantships must be submitted no later than March 1st. Consult the Graduate Director for further details.

## GRADUATE COURSES (SOC)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652

**5010 Selected Sociological Topics. Cr. 1-4**  
Topics to be announced in the Schedule of Classes. (Y)

**5020 (NUR 7515) End-of-Life Issues. (ANT 5430) (ANT 7430) (LIS 7635) (SOC 7020) 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. (Y)

**5360 Introduction to Medical Sociology. Cr. 4**  
Sociological and social psychological examination of health and illness behavior, health care providers, patient-provider-hospital relations, and health policy both in the United States and cross-culturally. Detroit area data and sex roles in medicine are discussed. This course is appropriate for non-sociology students with an interest in health issues (nursing, pre-medicine, and others), as well as for sociology and psychology students. (Y)

**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. (T)

**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. (T)

**5500 (SOC 5500) Urban and Metropolitan Living. (U P 5210) Cr. 3**  
Examination of the development and organization of urban living as it emerged from village to city to metropolitan regions. Consideration given to such topics as the causes of urbanization and its consequences for the ecological and social structure of the city, intergroup relations, crime and poverty in the city. (I)

**5540 (ANT 5060) Urban Anthropology. Cr. 3**  
Prereq: ANT 2100 or consent of instructor. Socio-cultural effects of urbanization in the developing areas of the world, particularly Africa, Latin America, Southeast Asia and India. The process of urbanization. The anthropological approach in the area of urban studies. (I)

**5570 (SOC 5570) Race Relations in Urban Society. (AFS 5570) 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. (Y)

**5580 (AFS 5580) Law and the African American Experience. Cr. 4**  
Prereq: upper division standing. Offered for undergraduate credit only. 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. (B)

**5700 (SOC 5700) Seminar in Social Inequality. (SOC 8700) Cr. 4**  
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. (Y)

**5760 Society and Aging. Cr. 3**  
Personal, interpersonal and institutional significance of aging and age categories. Sociological dimensions of aging based on physical, social-psychological, and demographic backgrounds. (Y)

**5810 (SOC 5810) Law in Human Society. (CRJ 5810) 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. (Y)

**5830 Juvenile Delinquency. Cr. 3**  
Nature, incidence, causes, treatment, prevention and control of juvenile delinquency. The juvenile justice system as distinguished from the criminal justice system. (Y)

**5870 Violence in the Family. Cr. 4**  
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. (Y)

**6050 Sociological Theory Before 1920. Cr. 4**

Prereq: SOC 2000 and 4050 or consent of instructor. Sociological theorists before 1920, their thought and the historical context in which such thought developed. (Y)

**6060 Sociological Theory Since 1920. Cr. 4**

Prereq: SOC 2000 and 4050 or consent of instructor. Historical and theoretical analysis of sociological thought in the present century. Current trends in sociological theory. (Y)

**6080 (PHI 5230) Philosophy of Science. Cr. 4**

Prereq: PHI 1850 or PHI 1860 or any course from the Philosophical Problems group or consent of instructor. Intensive investigation and discussion of special topics or particular authors in the philosophy of science. Topics and authors to be announced in Schedule of Classes. (Y)

**6280 Social Statistics. Cr. 4**

Prereq: SOC 4220 or equiv. 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. (Y)

**6290 Advanced Social Statistics. Cr. 4**

Open only to doctoral students. Prereq: SOC 6280. 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. (Y)

**6400 Family Theories and Research. Cr. 3**

Major sociological and social psychological theories relevant to the study of the family combined with a comprehensive survey of family research; these theories and research findings applied to contemporary family issues and family policy. (I)

**6455 (U P 6455) Discrimination and Fair Housing. (AFS 6455) (ECO 6455) (P S 6455) (U S 6455) Cr. 3**

Prereq: senior or graduate standing. 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. (B)

**6580 Applied Sociology I: Research and Theory in Applied and Clinical Settings. Cr. 4**

Prereq: graduate students or advanced social science undergraduates. The logic of applied sociological theory and research design. Ethical issues in applied and clinical social science projects, and of contributions of related social science disciplines. Development of writing skills in applied and clinical research and theory. (Y)

**6590 Applied Sociology II: Strategies for Changing Social Behavior. Cr. 4**

Prereq: consent of director of applied sociology. Analysis of theoretical and practical strategies for promoting the change of social behavior. Focus on behavior of the individual, small group, and community structural levels. Means of evaluating effectiveness of change strategies. Materials drawn from theory and practice in sociology and related social sciences. (Y)

**6750 Sociology of Urban Health. Cr. 3**

Prereq: graduate standing; undergraduates by consent of instructor. Review of theories and research on health status and health care delivery issues in urban communities. (I)

**6850 (ECO 6810) Political Economy of the Urban Ghetto. (U P 6670) Cr. 3**

Prereq: graduate standing; upper division undergraduates by consent of instructor. Examination of the economic, social and political transformation of U.S. cities; particular attention to the formation,

dynamics, economics and social sub-systems of urban ghettos and their relationship to broader contexts. (B)

**7000 Internship in Applied Sociology. Cr. 3**

Prereq: SOC 6580 and 7200. Guided internship with Detroit metropolitan private and public organizations arranged and supervised through the Program in Applied Sociology and Urban Policy. (Y)

**7010 Special Topics. Cr. 2-16**

Topics to be announced in Schedule of Classes. (Y)

**7020 (NUR 7515) End-of-Life Issues. (ANT 5430) (ANT 7430) (LIS 7635) (SOC 5020) 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. (Y)

**7030 Proseminar. Cr. 4**

Prereq: admission to the graduate program. Introduction to the profession of sociology. Delineation of some major subfields, particularly department emphasis. Preparing professional papers, proposals, oral presentations. Development of theoretical models. (W)

**7050 Comparative Schools of Sociological Theory. Cr. 4**

Analysis and comparison of diverse theories and schools from a broad perspective. (I)

**7100 (SOC 4360) Women and Health. (SOC 2360) Cr. 4**

Prereq: graduate standing or consent of instructor. 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. (Y)

**7150 Seminar in Social Psychology. Cr. 4**

Prereq: graduate standing. Advanced theoretical survey of major theories of social psychology. (I)

**7170 Field Research in Community Sociology. Cr. 4**

Prereq: completion of 18 credits in graduate coursework in sociology or consent of instructor. Field research in urban settings, ethnography, participant observation, informal and in-depth interviewing, and development of grounded theory. (I)

**7200 Advanced Survey of Approaches and Techniques of Social Research. Cr. 4**

Prereq: SOC 6280. 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. (Y)

**7220 Seminar in Survey Research Methods. (ANT 7220) (P S 7620) Cr. 3**

Prereq: advanced undergraduate or graduate training in general research methods and statistics; open to upper level undergraduates with consent of instructor. 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 (special populations), and questionnaires. (I)

**7260 Qualitative Sociology. Cr. 4**

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. (Y)

**7330 (P S 6050) Class, Race, and Politics in America. (AFS 6100) (HIS 5110) (U P 7030) Cr. 3**

Prereq: senior standing or consent of instructor. Historical and analytic investigation into the role of class and race in American politics. (I)

**7350 (U P 7260) Urban Poverty and Racial Segregation. (AFS 6600) (ANT 7260) (P S 7260) Cr. 3**

Prereq: graduate standing. 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. (B)

**7460 Seminar in the Sociology of African American Families. Cr. 4**

Prereq: graduate standing. Historical, theoretical, and empirical methods of studying African American families. Practical and policy issues relevant to African American families; African Diaspora issues. (Y)

**7500 Advanced Qualitative Methods. Cr. 4**

No credit after SOC 7170. Prereq: SOC 7260. 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. (Y)

**7770 Seminars in Medical Sociology. Cr. 4**

Prereq: admission to graduate program or consent of instructor. 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. (Y)

**7850 (SOC 7850) Seminar in Applied Gerontology. (FPH 7850) Cr. 3**

Prereq: completion of three gerontology courses, consent of instructor. Open only to students in gerontology or community health services M.S. program. No credit after S W 8810. Approaches to evaluation of applied research in gerontology from multi-disciplinary perspective. Topics include: research design, program evaluation methods, assessment of research related to multi-disciplinary facets of applied gerontology. (Y)

**7990 Directed Study. Cr. 1-6 (Max. 6)**

Prereq: written consent of advisor and graduate officer. Not open to doctoral students. (T)

**7995 Directed Teaching in Sociology. Cr. 1**

Prereq: written consent of advisor and graduate officer. Students work under the direction of a member of the graduate faculty; planning lectures, handling class discussions, preparing exams, and grading introductory sociology students. (Y)

**7999 Master's Essay. Cr. 1-3 (3 req.)**

Prereq: consent of advisor. (T)

**8060 Seminar in Sociological Theory. Cr. 4**

Analysis and discussion on limited number of specific theories, theories, and/or issues. (I)

**8400 Seminar in Sociology of the Family. Cr. 3**

Prereq: graduate standing in sociology or prior coursework in marriage/family area. 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. (I)

**8500 Seminar: Covariance Structure Models. Cr. 4**

Prereq: graduate standing. Theory and methods of testing models of covariance structure; mathematical model specification; model modification. (I)

**8700 (SOC 5700) Seminar in Social Inequality. Cr. 4**

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. (Y)

**8710 Advanced Seminar in Race/Ethnicity. Cr. 4**

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. (Y)

**8720 Advanced Seminar in Sex/Gender. Cr. 4**

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. (Y)

**8801 Topics in the Sociology of Labor. Cr. 4**

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. (Y)

**8802 Topics in Urban Sociology. Cr. 4**

Seminar: topics in the area; may include: urban enclaves, suburbanization, world cities, gentrification, integration/segregation, urban environmentalism, health in cities. (Y)

**8990 Directed Study. Cr. 2-6 (Max. 6)**

Prereq: consent of advisor and graduate officer. Open only to doctoral students. (T)

**8999 Master's Thesis. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: SOC 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following SOC 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: SOC 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following SOC 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: SOC 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following SOC 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in SOC 9991- SOC 9994. Offered for S and U grades only.

# Urban Studies and Planning

Office: 3198 Faculty Administration Building; 313-577-2701;  
Fax: 313-577-0022

Chairperson: Robert (Robin) M. Boyle

Web: <http://www.CLAS.wayne.edu/DUSP/>

## Professors

Robert (Robin) M. Boyle, George Galster, George J. Honzatko (Emeritus), Robert Sinclair (Emeritus), Avis Vidal

## Associate Professors

Kamishwari Pothukuchi, S. Rayman Mohamed, Bryan Thompson (Emeritus)

## Assistant Professors

Lei Ding, Carolyn G. Loh

## Lecturers

Jeffrey Horner

## Adjunct Faculty

Janet Anderson, Jason Booza, Dennis Burin, Analie Campos, Robert Heuton, Darryl LaFlamme, Ernando Minghine, William James, William Quigley, Chade Saghir, Paul Vigeant, Benjamin Tallerico, Peter Webster, Robin West-Smith

## Graduate Degrees and Certificate Program

### MASTER OF URBAN PLANNING

#### GRADUATE CERTIFICATE in Economic Development

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.

**Accreditation:** The Master of Urban Planning program is accredited by the Planning Accreditation Board.

## Master of Urban Planning

**Admission** to this program is contingent upon admission to the Graduate School, for requirements, see page 18.

**DEGREE REQUIREMENTS:** The Master of Urban Planning is offered by this department under the following options:

**Plan A:** Forty-eight credits including an eight credit thesis.

**Plan B:** Forty-eight credits including a three credit essay.

The distribution of the forty-eight credits is as follows: twenty-three credits in required courses (listed below), which build the core of the program; selection of elective courses (between thirteen and seventeen credits) to form a topic concentration; and the completion of a

capstone component that includes an integrative project (U P 7700, four credits), and a master's essay (U P 7999, three credits) or master's thesis (U P 8999, eight credits). Students are strongly advised to pursue Plan B, but may petition to pursue Plan A.

### Required (Core) Courses (Twenty-three credits)

U P 5010 -- Resources and Communication in Planning: Cr. 3

U P 5110 -- Urban Planning Process: Cr. 3

U P 6120 -- Planning Studies and Methods: Cr. 4

U P 6320 -- Quantitative Techniques I: Cr. 4

U P 6510 -- Urban and Regional Systems: Cr. 3

U P 6650 -- Planning and Development Law: Cr. 3

U P 7010 -- Planning and Decision Theory: Cr. 3

**Electives:** Following completion of at least twelve credits in required courses, students will, in consultation with a permanent advisor, devise a Plan of Work, selecting elective courses that constitute one of three concentrations: Housing and Community Development, Urban Economic Development, or Managing Metropolitan Growth. With the approval of the Director of the Urban Planning Program, a student may design his/her own topic of concentration.

Prior completion of courses equivalent to the program requirements may form a basis for reducing credits in any individual Plan of Work. Possession of a master's degree in an area of study determined to be related to urban planning by the Graduate Program Committee may allow an applicant to elect a program of thirty-two credits, inclusive of capstone requirements.

Academic work will begin with courses at the 5000 or 6000 level. Core areas in which applicants must take courses are planning background and processes, urban structure and analysis, and planning implementation.

**Scholarship:** All course work must be completed in accordance with the academic procedures of the Graduate School and the College governing graduate scholarship and degrees; see the sections of this bulletin beginning on pages 32 and 279.

## Graduate Certificate in Economic Development

The Graduate Certificate Program in Economic Development is administered in conjunction with the following graduate programs: Sociology, Business Administration, Economics, Employment and Labor Relations, Public Administration, and Urban Planning. The Certificate is designed for students who wish to combine a graduate degree (master's or doctoral) with a specialty in urban, regional and state economic development. It will be awarded only in conjunction with the completion of a graduate degree or to those already holding such a degree.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. Eligibility for this program is limited to persons holding a graduate degree from an accredited educational institution or those actively pursuing a graduate degree at Wayne State University. Applicants must submit a completed application form, personal statement of interest in the program, and Plan of Work.

**CERTIFICATE REQUIREMENTS:** Students must complete twelve credits in designated courses, including Core Area I, and courses (at least three credits each) from two of the Core Areas II, III, and IV. At least one course at the 7000 level must be elected, and at least one course (in addition to the Area I course) must be elected from outside the student's graduate program.

Students in the certificate program must maintain a grade point average of at least 3.0. Transfer of credit from other institutions may not be applied toward the credits required for the certificate. If a student is concurrently enrolled in a graduate degree program at the University, no more than nine credits from the certificate program may be applied toward that degree.



### CORE AREA I:

#### *Theory and Practice of Economic Development*

U P 6550 -- Regional, State and Urban Economic Development: Policy and Administration (P S 6440) (ECO 6650): Cr. 3

### CORE AREA II:

#### *Economic Development Policy, Politics and Institutions*

##### BUSINESS ADMINISTRATION:

MKT 7460 -- International Business: Cr. 3

MGT 7750 -- Labor Relations and Collective Bargaining: Cr. 3

##### INDUSTRIAL RELATIONS:

ELR 7400 -- Labor Relations Law in North America: Cr. 3

ELR 7450 -- Employment Relations Law in North America: Cr. 3

##### POLITICAL SCIENCE:

P S 6340 -- Public Sector Labor Relations: Cr. 3

P S 7240 -- Urban Public Policy (U P 7650): Cr. 3

##### SOCIOLOGY:

SOC 5500 -- Urban and Metropolitan Living (U P 5210): Cr. 3

##### URBAN PLANNING:

U P 6350 -- Housing Policy and Programs: Cr. 3

### CORE AREA III:

#### *Economics and Finance of Economic Development*

##### BUSINESS ADMINISTRATION:

FIN 7870 -- International Finance: Cr. 3

##### ECONOMICS:

ECO 6510 - Advanced Public Finance: Cr.4

ECO 6800 -- Adv. Urban and Regional Economics (U P 5820): Cr. 4

##### URBAN PLANNING:

U P 6310 -- Real Estate Development: Cr. 3

### CORE AREA IV:

#### *Economic Development Management and Analysis Technique*

##### BUSINESS ADMINISTRATION:

ACC 7100 -- Financial Accounting for Managers: Cr. 3

B A 7020 -- Corporate Financial Management: Cr. 3

MGT 7660 -- Entrepreneurial Management: Cr. 3

##### ECONOMICS:

ECO 7500 -- Public/Urban Economics:<sup>1</sup> Cr. 4

##### POLITICAL SCIENCE:

P S 7250 -- Seminar in Urban Administration (U P 7250): Cr. 3

P S 7460 -- Program Evaluation: Cr. 3

##### SOCIOLOGY:

SOC 6580 -- Applied Sociology I: Applied and Clinical Settings: Cr. 4

##### URBAN PLANNING:

U P 6650 -- Planning and Development Law: Cr. 3

For further information about this certificate program, contact the graduate advisor of the program in which you are enrolled or wish to enroll. Students who are not in a graduate program in applied sociology, business administration, economics, industrial relations, public administration, or urban planning, or who do not already possess a graduate degree in one of these areas, should contact the Department.

## Fellowships and Assistantships

Each year the Department offers an assistantship to a qualified student. Details and applications may be obtained from the Chairperson of the departmental Graduate Study Committee.

1. All students are required to take ECO 7500 or an equivalent. ECO 7500 will NOT count toward the certificate for students pursuing a master's degree in economics or public administration.

Sources of financial aid for graduate students are enumerated in the section on Graduate Financial Aid, beginning on page 26 of this bulletin.

## GRADUATE COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## URBAN PLANNING (U P)

### **5010 Resources and Communication in Planning. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Introduction to the use of basic tools and techniques of professional planning practice, including data resources, computer applications, map and plan preparation, presentation techniques. (Y)

### **5110 Urban Planning Process. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Scope and historical development of planning. Topics relevant to the practice of planning: theory, planning practice, social and physical development policy. (Y)

### **5210 (SOC 5500) Urban and Metropolitan Living. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Examination of the development and organization of urban living as it emerged from village to city to metropolitan region. Topics include: causes of urbanization and its consequences for the ecological and social structure of the city, intergroup relations, crime and poverty in the city. (I)

### **5310 Current Planning Practice. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Practical application of planning theory to current issues of planning and community development, including land use, economic development, and environmental concerns. (B)

### **5420 Internal Structure of the City. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Topics include: perception of the urban environment, spatial interaction and movement, models of structure and growth, migration to and within the city, ethnic and social areas, community extension, social processes and spatial form. (Y)

### **5520 Industrial Geography. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Theory and practice of the location of industry, analysis of selected manufacturing industries and selected industrial regions. The role of industrial location in urban and regional development. (B)

### **5610 Managing Public Participation. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Development of conceptual and practical skills for eliciting and managing public participation in planning. Key approaches include community organizing, facilitating consensus building in public deliberations, and negotiation. (Y)

**5620 Marketing Geography. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Factors underlying retail location and shopping center development; evaluation of population, income levels, access and competition for location decisions; techniques applicable to sales potential/rent-up/sell-out estimates for retail units, housing developments, recreation facilities, office buildings; retail impact on urban land use; crime and commercial location; considerations for the elderly in commercial locations. (B)

**5650 (GPH 5650) Metropolitan Detroit. Cr. 4**

Comprehensive geographic 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. (Y)

**5820 (ECO 5800) Urban and Regional Economics. (ECO 6800) Cr. 4**

Prereq: ECO 2010. Open only to graduate and post-bachelor students; others by consent of instructor. 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. (Y)

**5999 Special Topics. Cr. 1-4 (Max. 8)**

Open only to graduate students. Open only to graduate and post-bachelor students; others by consent of instructor. (Y)

**6120 Planning Studies and Methods. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Economic base, population, and land use studies. Discussion of approaches used to solve selected community development problems. (Y)

**6210 Urban Design Elements. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Introduction to the role of urban design and the concept of design criteria, design variables, and terminology. (B)

**6260 Land Use Policy and Planning. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. 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. (Y)

**6310 Real Estate Development. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Process of urban real estate development; emphasis on market analysis, the construction process, and finance. (Y)

**6320 Quantitative Techniques I. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Statistical inference with emphasis on applications including central tendency, dispersion, hypothesis testing, correlation and regression. (Y)

**6340 Community Development. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. 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. (Y)

**6350 Housing Policy and Programs. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Governmental housing policies and programs at the Federal, state and local levels. Role of community-based organizations in housing activities. (Y)

**6400 Planning Issues. Cr. 2-4 (Max. 6)**

Open only to graduate and post-bachelor students; others by consent of instructor. Studies of urban policy issues as they affect land use. Social and economic determinants of the physical composition of urban areas. (B)

**6420 Quantitative Techniques II. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Multivariate analysis with emphasis on applications, including matrix algebra, vector spaces, linear and non-linear models, principal components analysis, and programming approaches. Material Fee as indicated in the Schedule of Classes. (B)

**6455 (U P 6455) Discrimination and Fair Housing. (AFS 6455) (ECO 6455) (P S 6455) (SOC 6455) (U S 6455) Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. 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. (B)

**6470 Environmental Planning. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. 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. (Y)

**6510 Urban and Regional Systems. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. 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. (Y)

**6520 Transportation Policy and Planning. (C E 6525) Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Introduction to the role of transportation in the planning process involving both regional and urban considerations. (Y)

**6550 Regional, State, and Urban Economic Development: Policy and Administration. (ECO 6650) (P S 6440) Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Examination of regional, state, and local economic development theory, analysis, policy and administration. (B)

**6570 Local Economic Development: Implementation and Finance. Cr. 3**

Prereq: U P 6550 or consent of instructor. Open only to graduate and post-bachelor students; others by consent of instructor. Detailed examination of economic development programs available to local governments for commercial revitalization (neighborhood and downtown), and industrial development and redevelopment. (Y)

**6610 Planning Ethics. Cr. 3**

Prereq: graduate standing or consent of instructor. Open only to graduate and post-bachelor students; others by consent of instructor. Theories in moral philosophy and contemporary debates about problematic issues of planning practice, such as environmental ethics and whistleblowing. Development of a consistent and complete understanding of professional ethics. (B)

**6650 Planning and Development Law. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Techniques available to guide land development. Concepts in zoning, subdivision regulations, timing and sequence of land development. (Y)

**6670 (ECO 6810) Political Economy of the Urban Ghetto. (SOC 6850) Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Examination of the economic, social and political transformation of U.S. cities; particular attention to the formation, dynamics, economics and social sub-systems of urban ghettos and their relationship to broader contexts. (B)

**6680 Neighborhood Decline and Revitalization. Cr. 3**

Open only to graduate and post-bachelor students; others by consent of instructor. Examination of reasons for neighborhood change and how plans and policies can be specified and implemented for neighborhood improvement. (B)

**6700 Geographic Information Systems. Cr. 4**

Open only to graduate and post-bachelor students; others by consent of instructor. Principles and applications of GIS, including spatial statistics, computer graphics, computer cartography. (Y)

**6750 (ECO 5520) State and Local Public Finance. (ECO 6520) Cr. 4**

Prereq: ECO 2010 or consent of instructor. Open only to graduate and post-bachelor students; others by consent of instructor. 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. (Y)

**6830 Advanced GIS Applications. Cr. 4**

Prereq: GPH 6700 or written consent of instructor. Open only to graduate and post-bachelor students; others by consent of instructor. Use of GIS for spatial analysis and computer cartography. (Y)

**6850 Cost-Revenue Workshop. Cr. 3**

Offered for S and U grades only. No credit after U P 6050. Open only to graduate and post-bachelor students; others by consent of instructor. Evaluation of the fiscal impacts of land use projects as they affect community tax revenue. Presentation of methods for assessing costs and revenues associated with residential and nonresidential growth. (B)

**7010 Planning and Decision Theory. Cr. 3**

Materials addressing the function of planning as a rationalizing of social decision making processes. Theories of the planning process as a human decision activity. (Y)

**7030 (P S 6050) Class, Race, and Politics in America. (AFS 6100) (HIS 5110) (SOC 7330) Cr. 3**

Prereq: senior standing or consent of instructor. Historical and analytic investigation into the role of class and race in American politics. (I)

**7100 Seminar in Michigan/Ontario Planning Issues. Cr. 3**

Local, organizational, and procedural differences in public land use planning in Michigan and Ontario. (I)

**7230 (P S 7230) Suburban Paradise: The Suburb in American Society. Cr. 3**

History of suburban development, nature of suburban society, and suburban politics. (W)

**7250 (P S 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. (B)

**7260 Urban Poverty and Racial Segregation. (AFS 6600) (ANT 7260) (P S 7260) (SOC 7350) Cr. 3**

Prereq: graduate standing. 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 'underclass' debate. (B)

**7550 (P S 7300) Public Administration in the United States. Cr. 3**

Examination of the development of public bureaucracy in the United States and the political, legal and social forces shaping it. Emergence and evolution of public administration as both a profession and a field of study. Major normative concerns underlying public administration theory and practice. The role of public bureaucracies in the policy-making process and efforts to achieve an effective and accountable public bureaucracy. Ethical dilemmas and standards for administrators. (Y)

**7650 (P S 7240) Urban Public Policy. Cr. 3**

Influences on urban policy makers, policy making and implementation, service distribution and policy impacts. Applications to substantive policy areas. (B)

**7700 Projects in Urban Planning. Cr. 4**

Offered for S and U grades only. Development and application of research design to specified urban problems. (B)

**7800 Internship in Planning. Cr. 3**

Prereq: urban planning major, written consent of instructor. Practicum for MUP Program. Field placement with public or nonprofit agency assigned by Urban Planning Intern Coordinator. (Y)

**7990 Directed Study. Cr. 1-4 (Max. 8)**

Independent reading and research. (T)

**7995 Seminar in Urban Planning. Cr. 3**

Prereq: urban planning major. Selected topics in study of housing and community development, local economic development and planning policy. (B)

**7996 Research Topics. Cr. 1-4 (Max. 6)**

Individual problems in urban planning. (T)

**7999 Master's Essay Direction. Cr. 1-3**

Prereq: consent of advisor. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of advisor. (T)

## URBAN STUDIES (U S)

**6455 (U P 6455) Discrimination and Fair Housing. (AFS 6455) (ECO 6455) (P S 6455) (SOC 6455) Cr. 3**

Prereq: senior or graduate standing. 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. (B)



School of Library  
and Information Science

DEAN: Sandra G. Yee

# Foreword

## The Information Profession

The School of Library and Information Science (SLIS) prepares information professionals to assume leadership roles in libraries and other information organizations. By emphasizing the practical application of knowledge and skills, students are trained in the core principles of librarianship - information access, organization, services, and management - as well as emerging fields incorporating electronic media such as digital collections, competitive intelligence, information architecture, and web site development. SLIS 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.

Currently, qualified information professionals are working in varied settings all over the globe. "Librarians held about 159,900 jobs in 2008. About 59 percent were employed by public and private educational institutions and 27 percent were employed by local government." (*Occupational Outlook Handbook*, <http://stats.bls.gov/ocos068.htm>). Exciting career opportunities exist in the public and private sectors, including business, law, medicine, publishing, government, archives and museums, communications and media, engineering, academic environments, and pre-K-12 education. The Master of Library and Information Science (M.L.I.S.) 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 employment.

## Graduate Degrees and Certificates

### *MASTER OF LIBRARY AND INFORMATION SCIENCE*

*(also offered as a joint degree with a Master of Arts in History)*

### *SPECIALIST CERTIFICATE in Library and Information Science*

#### *GRADUATE CERTIFICATES in*

*Archival Administration*

*Arts and Museum Librarianship*

*Information Management for Librarians*

*Public Library Services to Children and Adults*

*Records and Information Management*

*Urban Librarianship*

## Accreditation

The School of Library and Information Science first received accreditation for its master's degree by the American Library Association in 1967; the School's most recent accreditation was granted by the ALA Committee on Accreditation in 2010.

## Mission and Goals

### *Vision Statement*

Wayne State University's School of Library and Information Science (SLIS) educates students for careers within the information profession and to be leaders and advocates for the multiplicity of roles which information and its providers play within societies. The SLIS offers its students innovative, collegial, and stimulating intellectual and physical environments. Situated within one of the nation's major urban research universities, the SLIS benefits from its close proximity to numerous libraries, archives, and preeminent cultural institutions while also deploying an array of robust online tools and environ-

ments. The School provides opportunities for research and practice excellence within multicultural, diverse, and global settings.

### *Mission Statement*

Aligned with Wayne State University's missions of preeminence in teaching, learning, research, and service, the mission of the School of Library and Information Science is to prepare students to assume professional and leadership roles in dynamic and evolving library and information environments. The School is committed to excellence in all of these areas.

### *Goals and Objectives*

**RESEARCH:** The SLIS will foster, facilitate, and support research by faculty and students.

The SLIS will assist students in appreciating the importance of research within practice, and for developing theoretical approaches to library and information science.

The SLIS will foster student engagement in research, through courses and directed studies, and other independent learning opportunities.

The SLIS will support students in presenting their research in courses, at conferences, and through publication.

The SLIS will support faculty research and scholarly communication.

The SLIS will cultivate faculty engagement with student research experiences and skill development.

**TEACHING:** The SLIS will encourage and teach professional approaches and a service philosophy.

The SLIS will provide the skills and dispositions for excellence in information service delivery.

The SLIS will offer opportunities to sustain professional growth and achievement, including career mentoring.

The SLIS will expose students to the historical, social, cultural, educational, political, and economic dimensions of information and information agencies.

The SLIS will educate students in the history, philosophies, theories, principles, policies, and ethics of library and information science.

The SLIS will inculcate the importance of career-long professional learning.

**SERVICE:** The SLIS will be engaged within the diverse communities and world.

The SLIS will seek and facilitate diversity among the faculty and the student body.

The SLIS will address the roles of library and information services in a diverse global society, paying particular attention to the underserved.

The SLIS will facilitate student experience in multicultural and multi-ethnic information environments.

The SLIS will integrate urban issues across its curriculum, activities, and provide opportunities for community engagement and professional growth.

**LEADERSHIP:** The SLIS will foster leadership in traditional as well as interdisciplinary research, scholarship, and practices that address important information and library issues.

The SLIS will engage with the library community, alumni, and employers.

The SLIS will promote commitment and involvement in professional associations and organizations.

The SLIS will encourage involvement in the community and community organizations.

The SLIS will support service activities and participation in leadership roles at the School, University, local, state, national, and international levels.

**TECHNOLOGY:** The SLIS will educate within and for an evolving technological world.

The SLIS will continuously evaluate and apply technologies to its teaching, learning, research, and service programs.

The SLIS will enable all students to assess critically the effective uses of technologies in information practice.

The SLIS will assist students in understanding the roles of information technologies.

#### COMPETENCIES

Students who successfully complete the Master of Library and Information Science degree will be able to:

Understand the interactions between societal factors and information environments.

Evaluate, synthesize, and disseminate information.

Employ theories, best practices, and assessment strategies to the range of information functions.

Articulate the importance of intellectual freedom in information access and dissemination.

Identify the significance of intellectual property, security, and privacy issues.

Recognize the value of professional ethics, teaching, service, research, and continuing education to the advancement of the profession.

Facilitate the communication between information resources and information users.

Understand and apply multiple and emerging approaches to the organization of knowledge, published literatures, and records.

Apply current management and leadership theories and practices.

Demonstrate competencies in the latest information technologies.

Read, evaluate, and apply library and information science research to problems of professional practice.

## University Library System

The Library System includes the David Adamany Undergraduate Library, the Arthur Neef Law Library, the Purdy/Kresge Library, the Science and Engineering Library, the Vera P. Shiffman Medical Library and its Learning Resource Center at the Eugene Applebaum College of Pharmacy and Health Sciences. For detailed descriptions of these libraries, see page 65.

Scholarly materials in the University Libraries total more than three million volumes, 18,000 journal subscriptions and a broad range of electronic resources, including e-books and electronic journals, many of which are available in full-text. The University Libraries offer reference and research support, interlibrary loan, circulation and course reserve services, document delivery and library and information literacy programs. The libraries utilize and support the latest information technologies to provide state-of-the-art access to instructional and research materials. Students are welcomed at all library facilities. The libraries provide a range of study environments, including a 24-hour facility. Students are encouraged to identify study locations that best meet their studying needs and to consult with staff members whenever questions or needs arise.

The location of Wayne State University in the heart of Detroit's cultural center provides additional advantages to the library and information science student. Readily available to the University student is the main branch of the Detroit Public Library, the professional research library of the Detroit Institute of Arts, the Detroit Historical

Museum, and the Charles H. Wright Museum of African American History.

## Faculty

**Office:** 106 Kresge Library

**Director:** Stephen T. Bajjaly

**Website:** <http://www.slis.wayne.edu>

### *Professors*

Stephen T. Bajjaly, Robert P. Holley, Philip P. Mason (Emeritus), Joseph J. Mika (Emeritus), Ronald R. Powell (Emeritus), Peter Spyers-Duran (Emeritus), Dian E. Walster

### *Associate Professors*

Hermina G. B. Anghelescu, John H. Heinrichs, Gordon B. Neavill

### *Assistant Professors*

Joan Beaudoin, Deborah Charbonneau, Kafi Kumasi, Stephanie L. Maatta Smith, Jen (J.L.) Pecoskie, Joseph M. Turrini, Xiangmin Zhang

### *Senior Lecturers*

Bin Li

### *Professional in Residence*

Judith J. Field

## SCHOOL DIRECTORY

### DEAN:

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Fax: (313) 577-5525; e-mail: [aj0533@wayne.edu](mailto:aj0533@wayne.edu)

### ASSOCIATE DEAN:

Stephen T. Bajjaly: 106 Kresge Library; (313) 577-0350

e-mail: [dx1042@wayne.edu](mailto:dx1042@wayne.edu)

### GENERAL INFORMATION:

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(877) 263-2665 (toll-free); Fax: (313) 577-7563;

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### ADMISSIONS and RECRUITMENT:

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### ADMINISTRATION:

Yolanda Reader: 106 Kresge Library; (313) 577-2512

e-mail: [af7735@wayne.edu](mailto:af7735@wayne.edu)

### ACADEMIC SERVICES AND SUPPORT:

Jennifer Bondy: 106 Kresge Library; (313) 577-2523;

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### SCHEDULING AND FACULTY LIAISON:

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### STUDENT RECORDS:

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### E-LEARNING INSTRUCTIONAL SUPPORT:

David Foote: 106 Kresge Library; (313) 577-5328;

e-mail: [bb0875@wayne.edu](mailto:bb0875@wayne.edu)

### OFF-CAMPUS PROGRAMS:

Stephen T. Bajjaly: 106 Kresge Library; (313) 577-0350

# Degree and Certificate Programs

## Master of Library and Information Science (M.L.I.S.)

The master's degree program in library and information science (M.L.I.S.) prepares graduates to assume entry-level positions in the profession. Upon completion of thirty-six credits in course work, the student will possess a body of knowledge common to all libraries and library positions, and be versed in the application of theory and principles of librarianship and information studies. Our goal is to educate professionals who will assume leadership in the field and who will appreciate the need for professional growth through continuing learning experiences. The School provides students with the philosophical and conceptual framework, as well as the basic professional skills, needed to serve in a variety of library and information settings. Additionally, the School offers an online option for the M.L.I.S. degree to meet the needs of prospective students who cannot physically attend classes. All coursework for the online program is conducted via internet facilities and includes the same content as the regular M.L.I.S. program delivered by the School's full-time and adjunct faculty.

## Admission Requirements

Admission to the School is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, Master of Library and Information Science applicants must satisfy the following criteria:

1. Possess an undergraduate degree from an accredited college or university.
2. Have an undergraduate g.p.a. of 3.00 or better or possess another degree beyond the bachelor's degree. Applicants with an undergraduate g.p.a. between 2.25 and 2.99 can satisfy this requirement by one of the alternative methods (A or B) as follows:
  - a) Submit evidence of post-baccalaureate graduate course work completed with a g.p.a. of 3.0 or better in a minimum of twelve graduate credits; or
  - b) Submit an official score report for either of the following standardized tests taken within the last five years:

Graduate Record Examination (GRE): Official score report for the GRE taken within the last five years must indicate a total score of 950 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 500. Students may register online at [www.ets.org/gre](http://www.ets.org/gre). Wayne State University's institution code is 1898.

Miller Analogies Test (MAT): Official score report for tests taken within the last five years must indicate a score of at least 410. For MAT information and testing center locations go to [www.milleranalogies.com](http://www.milleranalogies.com)
3. Meet the SLIS Technology Requirements online at (<http://www.slis.wayne.edu/technology-requirements.php>).
4. Meet the Internet and Computing Core Certification (IC3) Requirement. (Please note, MLIS applicants may be admitted prior to satisfying this requirement, however, they cannot proceed past the first class until the requirement is met. Certificate-only applicants must submit IC3 transcripts with their application.) See the School's website ([www.slis.wayne.edu](http://www.slis.wayne.edu)) for details.
5. Submit a personal statement reflecting relevant personal and academic background and experience. Please limit statements to 250 words.

6. Submit a current resume or curriculum vitae.
7. Attend New Student Orientation. MLIS students must attend orientation prior to starting classes. The School views orientation as an essential element of the MLIS program. Students who do not attend the on-campus orientation sessions will be dropped from their classes. This is not applicable to certificate-only students.

### Application:

1. To apply for the M.L.I.S. and/or graduate certificates, please complete the online Graduate Admission Application form at <http://gradadmissions.wayne.edu/apply.php> and submit it with the \$50 application fee.
2. Compose a personal statement of 250 words or less and upload it with the application form. Please visit [http://slis.wayne.edu/forms/personal\\_statement.pdf](http://slis.wayne.edu/forms/personal_statement.pdf) to access the personal statement guidelines.
3. Upload a current resume or curriculum vitae with your application.
4. Request official transcripts from each university you have attended and have them sent directly to the Office of Graduate Admissions, Wayne State University, 4001 Faculty/Administration Building, 656 W. Kirby.

## Degree Requirements

The Master of Library and Information Science is offered only as a Plan C master's program (see page 36) requiring a minimum of thirty-six credits to be distributed as follows: Eighteen credits in the library and information science professional core, and eighteen credits in elective professional courses. A maximum of six credits in courses outside of library and information science may be accepted as cognates. Students must maintain a minimum grade point average of 3.0.

### Professional Core (Eighteen Credits)

- LIS 6010 -- Introduction to the Information Profession: Cr. 3
- LIS 6080 -- Information Technology: Cr. 3
- LIS 6120 -- Access to Information: Cr. 3
- LIS 6210 -- Organization of Knowledge: Cr. 3
- LIS 7996 -- Research in Library & Information Science: Cr. 3

### Plus one of the following management courses:

- LIS 7040 -- Library Administration & Management: Cr. 3
- LIS 7310 -- School Library Media Programs: Cr. 3

### Professional Concentration (Eighteen Credits)

A Plan of Work is a formal statement of the goals and prescribed courses of a student's academic program. The library and information science master's degree program requires that a Plan of Work be submitted after completion of nine credits of graduate course work. The Plan is prepared in consultation with the faculty advisor and may be organized around an area of concentration. The emphasis may relate to the type of environment in which the student intends to work: i.e., public libraries, academic libraries, archives, law libraries, school libraries, and medical libraries; or to special functions: i.e., reference, technical services, information technology, children's and youth services, and public services. Faculty advisors will assist the student in selecting the optimal Plan of Work for his/her academic goals.

### AREAS OF CONCENTRATION

- Academic Libraries
- Archival Administration
- General Librarianship
- Health Sciences Librarianship
- Information Science
- Law Librarianship
- Organization of Information
- Public Libraries
- Public Library Services to Children and Young Adults
- Records Management



Reference Services  
School Library Media Specialist Endorsement  
Special Libraries  
Urban Libraries

## Practicum

Within the Detroit metropolitan and surrounding areas, there are over 200 libraries, many of which provide opportunities for a supervised practicum which students may elect for credit. A planned on-site experience in a participating library under the direction of a professional librarian and the supervision of a faculty member can be arranged. Applications deadlines will be posted to the LIS electronic discussion list and website at <http://slis.wayne.edu>.

## Specialist Certificate in Library and Information Science

The Specialist Program in Library and Information Science is a post-master's certificate curriculum designed for the practicing professional who requires specialized competence in an area of librarianship, such as public services, technical services, reference, or information technology. This program enables librarians to:

1. update knowledge in the rapidly changing field of librarianship and information management—the organization, storage, retrieval, and dissemination of the human record;
2. use investigative methods and research findings in problem-solving and in the planning and evaluation of library and information services;
3. advance and extend competencies in areas of specialization begun during the first professional degree program (M.L.I.S.). Specializations may be in a particular library function (such as organization of materials, retrieval of information, information technology, collection development, management, public relations, and adult education), or in a type of information center (such as public, school, academic, and special), or in a service to a specific target group (such as business and industry, early childhood, the elderly, the handicapped, the institutionalized);
4. develop a new specialization responsive to the changing economic, technological, or social climate or to changing conditions in the life of the individual information professional; and/or
5. achieve other professional goals, as needed.

**ADMISSION REQUIREMENTS:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition, applicants to the Specialist program in Library and Information Science must satisfy the following criteria:

1. Possess a master's degree in library and information science;
2. Have professional employment experience as a librarian or information specialist;
3. Submit a goals statement reflecting relevant personal and academic background and experience.
4. Submit a current resume or curriculum vitae.
5. Demonstrate professional competence, leadership, and potential for further growth.
6. Meet the SLIS Technology Requirements found online at <http://www.slis.wayne.edu/technology-requirements.php>.

**CERTIFICATE REQUIREMENTS:** Candidates for the Specialist Certificate in Library and Information Science must complete thirty credits of 6000-8000 level course work providing the appropriate degree of concentration relevant to the student's career goals. Students in specialist certificate programs at Wayne State must maintain a minimum grade point average of 3.0. A Plan of Work and prescribed courses will be developed in consultation with a faculty advisor.

## Graduate Certificate in Arts and Museum Librarianship

The fifteen-credit Arts and Museum Librarianship Certificate program provides students with the education and practical experience necessary for building, organizing, managing, and promoting library collections in music, art, art history, dance, film studies, theater, and communication. Through the Practicum, students gain experience working collaboratively with senior librarians and discipline-based staff and actively participate in the development of projects and services using digital technology to support their work.

This certificate provides verification that a student has the skills to work effectively with patrons and staff in a fine or performing arts organization or a museum library. The certificate enables employers to clearly identify potential employees with the appropriate knowledge and abilities to provide high quality services and resources to the citizens of their community.

The prospective audience for the Arts and Museum Librarianship Certificate includes: incoming LIS graduate students wishing to pursue a professional career in fine or performing arts or museum librarianship; practicing library and museum staff who wish to advance their competency in the field of fine and performing arts or museum librarianship; and students from other disciplines and professions who wish to obtain an M.L.I.S. with a specialization in arts and museum library management and digital curation skills.

**Admission Requirements:** Applicants must meet requirements for admission to the Graduate School, see page 18. Admission to or completion of the M.L.I.S. is required for admission to the Certificate Program. Applicants without an M.L.I.S. must have a minimum 3.00 g.p.a. in their baccalaureate degree. In addition, the School of Library and Information Science requires all applicants to provide a statement of relevant personal and academic background and experience and a current resume.

**Certificate Requirements:** The certificate requires fifteen credits including nine credits of required coursework and six credits of a required practicum that rotates students through arts and museum locations during two semesters. The Practicum will extend the on-site opportunity, offered in other LIS curricula, to arts and museum library students.

### REQUIRED COURSES (fifteen credits)

- LIS 7085 -- Arts/Museum Librarianship: Cr. 3
- LIS 7110 -- Humanities Information Services and Resources: Cr.3
- LIS 7450 -- Digital Imaging: Cr. 3
- LIS 7675 -- Practicum: Arts/Museum Libraries: Cr. 6

The Certificate may be completed in conjunction with the M.L.I.S. degree or as a sequel to the M.L.I.S. degree. Students seeking to earn the Arts and Museum Librarianship Certificate concurrently with the M.L.I.S. may apply nine of the fifteen Certificate credits toward the M.L.I.S. degree and they must complete an additional six credits beyond the degree. Students who have already earned the M.L.I.S. degree must complete the fifteen credits of required coursework. This certificate program is available only to on-campus students; no online option is available.

**Graduation Requirements:** All coursework must be completed in accordance with Graduate School and School of Library and Information Science regulations governing graduate scholarship and degrees. Students must maintain a minimum 3.0 g.p.a. and meet all Graduate School requirements for ongoing enrollment, including a completed Plan of Work. Students may enroll on a full-time or part-time basis. Students who enroll in both the M.L.I.S. degree and Certificate program must complete requirements within six years of admission. Students who enroll in the Certificate only must complete requirements within three years of admission.

## Graduate Certificate in Archival Administration

The archival profession has experienced growth in recent years as many institutions such as colleges and universities, federal, state and local units of government, businesses, churches, and professional organizations have recognized the importance of maintaining their inactive historical records. In addition to the expansion of existing archives, many organizations are establishing archives. This has created a demand for individuals with undergraduate degrees in history or the humanities, who have advanced training in archival administration. In large archival establishments, archivists can become specialists in such areas as appraisal, conservation, exhibits, publications, reference service, oral history, records management, processing and public relations.

The Graduate Certificate in Archival Administration serves the needs of those who wish to enter the archival profession as well as those who have responsibility for overseeing archival programs. The program is open to students with baccalaureate degrees from accredited universities, students with advanced degrees, and students enrolled in other Wayne State University graduate programs.

**Admission:** See requirements for admission to the Master of Library and Information Science, page 392.

**CERTIFICATE REQUIREMENTS:** Students in graduate certificate programs at Wayne State must maintain a minimum grade point average of 3.0. Students working concurrently on the M.L.I.S. degree and the Certificate in Archival Administration are required to complete an additional six credits beyond the thirty-six required for the M.L.I.S. degree.

Students must complete fifteen credits selected from the following:

### REQUIRED:

- LIS 7710 -- Archival Administration: Cr. 3
- LIS 7685 -- Practicum: Archives (Prerequisite: LIS 7710): Cr. 3

### ELECTIVES:

- LIS 6780 -- Introduction to Records and Information Management: Cr. 3
- LIS 7730 -- Admin. and Preservation of Visual Collections: Cr. 3
- LIS 7740 -- Archives & Libraries in the Digital World: Cr. 3
- LIS 7750 -- Introduction to Archival & Library Conservation: Cr. 3
- LIS 7770 -- Oral History: Cr. 3
- LIS 7780 -- Electronic Archives: Cr. 3
- LIS 7885 -- Administration of Historical Agencies: Cr. 3
- LIS 8320 -- Information Issues and the Digital Environment: Cr. 3

## Graduate Certificate in Information Management for Librarians

The Graduate Certificate Program in Information Management for Librarians serves the needs of those who wish to enter the rapidly expanding information field. Information overload is a growing problem and information professionals are needed to filter and provide needed information. These professionals gather, organize, and coordinate access to available information sources for their organizations. By responding to critical information needs these professionals provide their organizations with a competitive edge.

The Information Management for Librarians certificate program seeks to provide students, librarians, and information professionals with the tools needed to use technology efficiently and effectively in gathering, storing, and disseminating information. Students completing this certificate will be librarians and information professionals who manage: Integrated Library System (ILS) implementations, Radio Frequency Identification (RFID) installations, the creation and development of websites containing multimedia content, the construction of blogs and wikis, Really Simple Syndication (RSS) formations, the establishment of discussion boards, database design, and delivery of end-user or community technical education. They will be

the primary instructors in the use of information technology for their libraries and information environments. Potential career paths for individuals earning the Information Management for Librarians certificate include: Consultant, Digital Librarian, Electronic Resources Librarian, Information Architect, Information Manager, Instructional Librarian, NextGen Librarian, and Systems Librarian.

The program is open to students with advanced degrees in related fields, students enrolled in the Library and Information Science master's program or other Wayne State University graduate programs, and, on a case by case basis, students with baccalaureate degrees from accredited universities who possess the appropriate background experience.

**Admission:** See requirements for admission to the Master of Library and Information Science, page 392

**CERTIFICATE REQUIREMENTS:** Students in graduate certificate programs at Wayne State must maintain a minimum grade point average of 3.0. Students working concurrently on the M.L.I.S. degree and the Certificate in Information Management for Librarians are required to complete an additional six credits beyond the thirty-six required for the M.L.I.S. degree.

Students must complete fifteen credits selected from the following:

### PREREQUISITE

- LIS 6080 -- Information Technology: Cr. 3

### MANAGERIAL ELECTIVES (six credits)

- LIS 7415 -- Project Management: Cr. 3
- LIS 7435 -- Integrated Library Systems: Cr. 3
- LIS 7470 -- Information Architecture: Cr. 3
- LIS 7490 -- Competitive Intelligence & Data Mining: Cr. 3
- LIS 7500 -- Information Behavior: Cr. 3

### TECHNICAL ELECTIVES (six credits)

- LIS 7410 -- Software Productivity Tools for Information: Cr. 3
- LIS 7420 -- Client-based Website Development: Cr. 3
- LIS 7430 -- Computing Resource Management: Cr. 3
- LIS 7440 -- Scripting Languages for Library Applications: Cr. 3
- LIS 7460 -- Database Concepts and Applications: Cr. 3

### REQUIRED COURSE

- LIS 8000 -- Seminar in Information Policy: Cr. 3

## Graduate Certificate in Public Library Services to Children and Adults

The clientele of public libraries in large urban library systems, suburban library districts and small rural independent libraries consists of a high proportion of children and young adults. Services to them require specialized training regarding the development of programs, the creation of effective collections, and the skills necessary to collaborate with community organizations that serve children and young adults including teachers and schools. This graduate certificate provides verification that the student completing the program has the skills to work effectively with this particular clientele in a public library setting. It will enable employers to clearly identify potential employees with the appropriate credentials for this kind of service.

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition the LIS School requires minimally a 3.0 g.p.a. in the baccalaureate degree; a statement of relevant personal and academic background and experience; and a current resume or curriculum vitae.

**CERTIFICATE REQUIREMENTS:** Students must complete fifteen credits of course work: including nine required credits and six elective credits with a minimum grade point average of 3.0. The nine credits of required courses cover the development of effective services for children and young adults (LIS 7250), outreach and marketing to communities and families (LIS 7250 and LIS 7420) and creating

appropriate collections for children and young adults (LIS 7340). Students choose from among a wide range of elective courses related to children's literature, bibliographic instruction and practical experiences for six hours to complete the certificate.

As with other certificates, nine credits of this certificate may be used toward completion of the Master's degree requirements.

**REQUIRED CORE COURSES** (nine credits):

- LIS 7250 -- Programming and Services for Children and Young Adults: Cr. 3
- LIS 7420 -- Client-Based Website Dvp. for Library and Info. Sci. Prfnls.: Cr. 3
- LIS 7340 -- Collection Development and Selection of Materials: Cr. 3

**ELECTIVE COURSES** (six credits from the following courses):

- LIS 6510 -- (RLL 7720) Survey & Anal. of Curr. Lit. for Chldrn.: PS-Grade 3: Cr. 3
- LIS 6520 -- (RLL 7740) Survey & Anal. of Lit. for Older Chldrn: Grades 4-8: Cr. 3
- LIS 6530 -- (EED 6310) Young Adult Literature: Cr. 3
- LIS 7650 -- Practicum: Health Science: Cr. 3
- LIS 7640 -- Practicum: Public Service: Cr. 3
- LIS 7880 -- Instructional Methods for Librarians: Cr. 3

## Graduate Certificate in Records and Information Management

The field of records and information management (RIM) is defined as the systematic control of records throughout their life cycle. A "RIM Professional" is a generic term that encompasses a wide range of positions such as records managers, corporate librarians, imaging specialists, and IT managers. RIM professionals are found in a wide variety of industry, business, government, legal, healthcare, and financial settings. The fifteen-credit Graduate Certificate is designed to address the RIM-specific competencies in the areas of: management functions; RIM practices; risk management; communications and marketing; information technology; and leadership. The goal of the program is to ensure that students from various organizational levels and with diverse skills and knowledge will have the opportunity to select courses focused on the competency areas they need.

Offered completely online, the certificate curriculum is founded in professional competencies recognized by the leading RIM professional association. It complements and strengthens existing LIS degrees, certificates and courses with additional RIM offerings useful to students with diverse backgrounds and interests. Students may earn the Certificate while concurrently enrolled in the Master Library and Information Science or other graduate program, or they may enroll in the Certificate Program only.

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition the LIS School requires minimally a 3.0 g.p.a. in the baccalaureate degree; a statement of relevant personal and academic background and experience; and a current resume.

**CERTIFICATE REQUIREMENTS:** Students must complete fifteen credits of course work: including nine required credits and six elective credits with a minimum grade point average of 3.0. Students working concurrently on the M.L.I.S. degree and the Certificate in Records and Information Management are required to complete an additional six credits beyond the thirty-six required for the M.L.I.S. degree.

**REQUIRED CORE COURSES** (nine credits):

- LIS 6780 -- Introduction to Records and Information Mgt.: Cr. 3
- LIS 6800 -- Information Tech. for Records and Information Mgt.: Cr. 3
- LIS 8500 -- Advanced Records and Information Mgt.: Cr. 3

**ELECTIVE COURSES** (six credits from the following courses):

- LIS 7070 -- Special Libraries and Information Centers: Cr. 3
- LIS 7480 -- Knowledge Mgt.: Library and Information Professionals: Cr. 3
- LIS 7695 -- Practicum: Records and Information Management: Cr. 3
- LIS 8000 -- Seminar in Information Policy: Cr. 3
- LIS 8120 -- Legal Information Resources and Services: Cr. 3
- LIS 8320 -- Information Issues and the Digital Environment: Cr. 3

## Graduate Certificate in Urban Librarianship

The Urban Librarianship certificate program provides students with the education and practical experience necessary to effectively serve patrons with widely diverse economic, social and cultural needs. Students gain specialized knowledge of diversity, multicultural information, and urban issues through course work and collaborative work with senior librarians and staff in a variety of urban library settings. These students actively participate in the development of programs and services to meet the challenging information needs of an urban populace. The certificate provides verification of the graduate's skills and thus enables an employer to clearly identify potential employees with the appropriate knowledge and abilities to provide high quality services and resources to the citizens of their community.

Potential candidates for the Urban Librarianship Certificate include incoming LIS graduate students wishing to pursue a professional career in an urban library setting; practicing library staff who wish to advance their competency in the field of urban librarianship; and students from other disciplines and professions who wish to obtain an MLIS with a specialization in urban library management.

**Admission Requirements:** Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. In addition the LIS School requires minimally a 3.0 g.p.a. in the baccalaureate degree; a statement of relevant personal and academic background and experience; and a current resume or curriculum vitae.

**CERTIFICATE REQUIREMENTS:** The certificate may be completed in conjunction with the MLIS degree or as a post-MLIS certificate. The fifteen-credit Urban Librarianship Certificate program includes 9 credits of required coursework and six credits of a required practicum that rotates students through partner organizations under the mentorship of senior librarians.

**REQUIRED CORE COURSES** (fifteen credits):

The Urban Librarianship Certificate program includes nine credits of required coursework and 6 credits of a required practicum that rotates students through urban library partner sites.

- LIS 7370 -- Multicultural Information Services and Resources: Cr. 3
- LIS 7400 -- Urban Libraries Seminar: Cr. 3
- LIS 7646 -- Practicum: Urban Librarianship: Cr. 6
- LIS 8370 -- Cultural Competence for LIS Professionals: Cr. 3

## Joint Master of Library and Information Science and Master of Arts in History

Joint-degree programs allow students to earn two degrees with fewer credits than if the degrees are earned separately. Students who enroll in the joint program will earn both the M.L.I.S. and M.A. in History degree. Graduates will increase their job market potential and be prepared to enter a new workforce that is capable of appraising and describing historical records, creating websites, and preserving electronic documents. Applicants to this fifty-seven credit program must be admitted to both the Department of History and the School of Library and Information Science master's degree program. Candidates must complete the required courses as outlined below for both programs in order to graduate. Core courses in one program may not be used as elective courses in the other; fourteen credits of electives may be double-counted.

### *Requirements: Library and Information Science*

Students will complete twenty-nine credits in core and elective LIS courses and seven credits in History elective courses.

**REQUIRED LIS COURSES** (eighteen credits):

- LIS 6010 -- Introduction to the Information Profession: Cr. 3
- LIS 6080 -- Information Technology: Cr. 3
- LIS 6120 -- Access to Information: Cr. 3

LIS 6210 -- Organization of Knowledge: Cr. 3  
LIS 7040 -- Library Administration and Management: Cr. 3  
LIS 7996 -- Research in Library and Information Science: Cr. 3

LIS ELECTIVE COURSES (eleven credits)

HIS ELECTIVE COURSES (seven credits)

Total: 36 credits for the M.L.I.S. degree

### *Requirements: History*

Students will complete twenty-eight credits of History core and elective courses and seven credits of LIS elective courses.

REQUIRED HISTORY COURSES (eighteen credits, including):

HIS 7999 -- Master's Essay Direction: Cr. 1-3

HIS 7830 -- Methods and Research and History: Cr. 3

HISTORY ELECTIVE COURSES (twenty-two credits, including):

A minimum of three History courses in major field

A minimum of two History courses in minor field

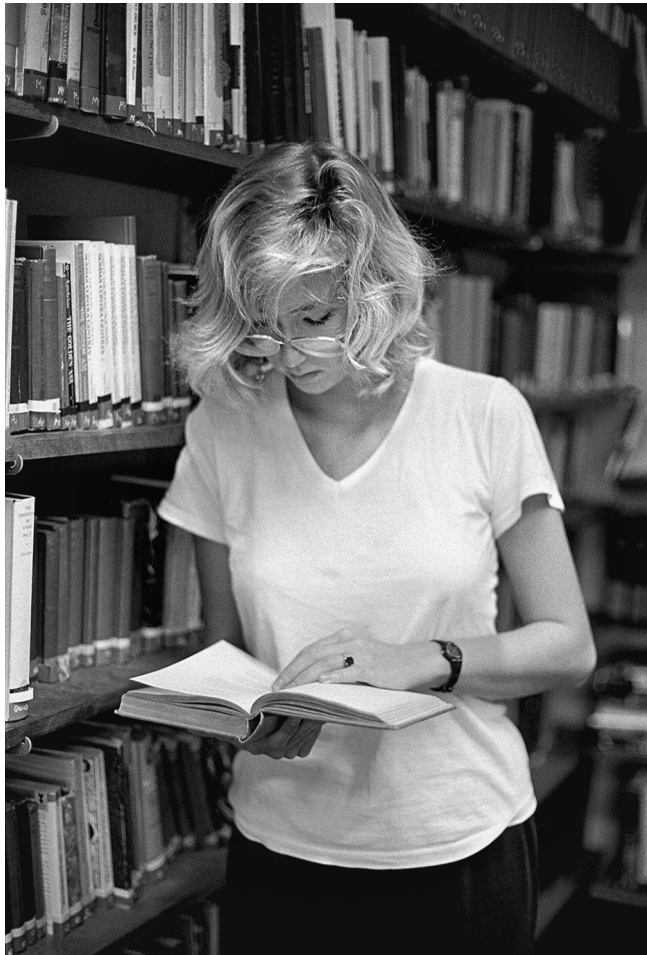
Four History courses must be at the 7000 level

At least one 8000 level History seminar

LIS ELECTIVE COURSES (seven credits)

Total: 35 credits for the M.A. History degree

Total for both degrees: fifty-seven credits (no more than fourteen credits may be double-counted). For more information about the Department of History's admission requirements, see page 336.



# Financial Aid, Awards, and Activities

## Financial Aid

For a list of sources of institutional graduate financial aid, see the section on Graduate Financial Assistance, beginning on page 26.

Financial assistance may be available to new and continuing students in the School of Library and Information Science. Scholarships, graduate student assistantships, work-study opportunities and Wayne State University student loans are available. Please note that international students are not eligible for financial aid but may be eligible for School scholarships or assistantships. Details of LIS scholarship opportunities are posted on the School of Library and Information Science web page at the online address: <http://slis.wayne.edu/financialaid.php>. For information on student loans, contact the WSU Office of Student Financial Aid.

The following information reviews employment and financial aid opportunities available to students in the School of Library and Information Science.

## Assistantships and Library Employment

The University Library System offers employment opportunities to Library and Information Science students. These positions provide students with an excellent opportunity to gain practical skills while supplementing their income. Students are encouraged to take advantage of these learning opportunities. Assignments involve relevant work experience at the pre-professional level in a number of areas within the University Library System. These include the Purdy/Kresge Library (for business, education, humanities, and social sciences), the Science and Engineering Library, the Vera Shiffman Medical Library, the Arthur Neef Law Library, and the David Adamany Undergraduate Library. Contact the University Library System Dean's Office at 313-577-4085 for additional information.

*Graduate Student Assistants* (GSAs) are appointed each year by the Dean of the University Library System and the Director of the School of Library and Information Science. Recipients are expected to work part-time (approximately twenty hours per week). GSAs receive a stipend, tuition, and health benefits. Contact the University Library System Dean's Office at 313-577-4085 for additional information.

*Student Assistants* assist LIS faculty and staff in a variety of administrative duties and may be called upon to assist with faculty research. Student assistants are paid an hourly rate. Contact the School of Library and Information Science at 313-577-2512 for additional information.

## Placement Services

The School of Library and Information Science offers a variety of career and placement services to meet the needs of its students. The School maintains an extensive listing of positions in libraries and information centers in the Detroit metropolitan area and throughout the United States and Canada. All job announcements are posted to the LIS Jobs listserv. Individual career advising can be scheduled through the school's main office. The School also sponsors an annual job fair providing on-campus interviews with prospective employers. In addition to these services, students may visit Wayne State University Career Planning and Placement Services for career and employment assistance.

## Scholarships and Awards

*General sources of financial aid for graduate students are enumerated in the section on Graduate Financial Assistance beginning on page 26 of this bulletin. The following awards pertain to the School of Library and Information Science. The application period for LIS scholarships is December 1 through March 1. Application forms and additional information are available on the LIS website at <http://www.slis.wayne.edu/financialaid.php>.*

**Isabel James Bath Scholarship.** The award recognizes scholastic achievement and provides assistance to students who plan to pursue careers as school, public, or academic librarians in the metropolitan Detroit area.

**Rosemary Benedetta Scholarship.** This scholarship recognizes scholastic achievement for students pursuing a career in school librarianship (minimum 3.0 g.p.a. required). Applicants must demonstrate financial need.

**LIS General Scholarships:** award of variable amount supported by alumnae and other friends of the School of Library and Information Science; recognizes students who demonstrate academic achievement, potential for leadership and financial need.

**Dean's Merit Scholarships:** award of variable amount given annually to students who have an excellent academic record, show high promise of success in graduate study and are interested in working in urban library and information environments. A minimum 3.75 undergraduate g.p.a. is required.

**Distinguished Alumnus/Alumna Award:** presented to a School of Library and Information Science graduate who has made outstanding contributions to the library and information science field.

**Sallie Ellison Memorial Endowed Scholarship:** award of variable amount which encourages continued academic progress and provides assistance to students who reflect Ms. Ellison's dedication to inner city, urban, minority communities and to quality library service; recipients will be selected based upon scholastic achievement with a minimum g.p.a. of 3.0, qualities of character, leadership, and financial need. Funds for award are provided by the family and friends of former Purdy Library Director Sallie Ellison.

**Judith J. Field Scholarship:** award of variable amount recognizing scholastic achievement (minimum 3.0 g.p.a.), qualities of character and leadership, and financial need. Students must demonstrate a commitment to special librarianship. Award established by Judith J. Field, Senior Lecturer, Library and Information Science Program.

**Gloria A. Francis Memorial Endowed Scholarship:** award of variable amount, based on academic qualifications, character, and financial need and a special interest and expertise in the areas of rare books and archives; given in honor of the former Rare Books Librarian of the Detroit Public Library.

**Friends of the Roseville Public Library Scholarship:** award of variable amount established by the Friends of the Roseville Public Library to recognize scholastic achievement (minimum 3.0 g.p.a.), qualities of character, leadership and financial need. Preference will be given to students with a demonstrated commitment to serving suburban libraries and Macomb County.

**Margaret Hayes Grazier Endowed Scholarship:** award of variable amount, based on academic qualifications, qualities of character and leadership, and financial need; for students pursuing careers in school library media or youth services. Given in honor of former Professor Emerita Margaret Hayes Grazier.

**Robert P. Holley Endowed Scholarship:** award of variable amount, which recognizes scholarly achievement, encourages continued progress, and provides financial assistance to students in the School of Library and Information Science, with a strong preference given to minority applicants, especially inner city, urban students who show an interest in a career in academic libraries; award based on scholastic achievement (minimum 3.0 g.p.a.), qualities of character and

leadership, and financial need. Award established by Robert P. Holley, Professor, School of Library and Information Science.

**Patricia B. Knapp Award:** given annually to the graduating M.L.I.S. student who has demonstrated a high level of scholarship and shows great promise of success in a career in library/information service. Given in honor of former School of Library and Information Science faculty member Patricia B. Knapp.

**Miriam T. Larson Memorial Endowed Scholarship:** award of variable amount, based on academic qualifications, character, and financial need; for students pursuing careers in health science library and information centers. Given in honor of former Professor Miriam T. Larson.

**Library and Information Science Alumni Scholarships:** award of variable amount, available to library and information science students who carry at least six credits per term and are active in student associations and activities; applicants must submit a letter of recommendation from at least one faculty member and agree to remain in the program until completion of the degree. Scholarship winners will be appointed as the LIS student representative on the LIS alumni association board. Awards are based on scholarship, character, and financial need.

**Joseph J. Mika and Marianne Hartzell-Mika Scholarship.** This award recognizes scholastic achievement. A minimum 3.5 g.p.a. is required with preference given to applicants currently working in a library.

**Roger S. and Muriel A. Pepper Endowed Scholarship:** Award of variable amount, which recognizes scholastic achievement (minimum 3.0 g.p.a.) and provides financial assistance to full-time or part-time graduate or undergraduate students enrolled in or accepted for study in the School of Library and Information Science. Applicants need not demonstrate financial need. Award established by Alice and Barbara Pepper in memory of their parents, Roger S. and Muriel A. Pepper.

**Edith B. Phillips Endowed Scholarship:** award of variable amount in honor of Professor Emerita Edith B. Phillips which recognizes scholastic achievement, encourages continued progress, and provides assistance to students enrolled in the School of Library and Information Science; preference given to students with interest in technical services.

**Professional Service Award:** awarded to alumni of WSU and other individuals who have made significant and sustained contributions to the Michigan library community over long-standing careers. Consideration is given to active members in Michigan state and regional professional associations and those who have held leadership roles in activities related to their jobs.

**Diane M. Rockall Endowed Scholarship:** award of variable amount established by Diane M. Rockall to recognize scholastic achievement, to encourage continued progress, and to provide assistance to students in the School of Library and Information Science; award based on academic achievement (minimum 3.5 g.p.a.) and financial need.

**Clara Lulis Russell Memorial Scholarship:** award of variable amount recognizing scholastic achievement (minimum 3.0 g.p.a.) qualities of character and leadership, and financial need. Preference will be given to students who exemplify a capacity to overcome life obstacles similar to Mrs. Russell's who are enrolled in the School of Library and Information Science and pursuing public librarianship. Award established by the Friends of the Detroit Public Library through a donation by Kathryn Russell in memory of her mother, Clara Lulis Russell.

**Charles Samarjian Memorial Scholarship:** award of variable amount which recognizes scholastic achievement, qualities of character and leadership, financial need, and which encourages continued academic progress. Scholarship established in memory of Detroit book dealer Charles Samarjian.

**Robert L. Sherwood Scholarship:** an award recognizing scholastic achievement (minimum 3.0 g.p.a.), qualities of character and leadership, and financial need. Award established by the Friends of the Herrick District Library to support students specializing in public librarianship and currently employed by the Herrick District Library or a resident of Ottawa or Allegan County.

**Lothar Spang Memorial Scholarship.** This award recognizes scholastic achievement (minimum 3.5 GPA is required) and provides assistant to students seeking an Urban Librarianship career.

**Peter and Jane Spyers-Duran Endowed Scholarship:** award of variable amount established by Professor Emeritus and former Dean of University Libraries, Dr. and Mrs. Peter Spyers-Duran to recognize scholastic achievement, to encourage continued progress, and to provide assistance to students in the School of Library and information Science; awarded on the basis of academic qualifications, character, and financial need.

**Carolyn R. Williams Endowed Scholarship:** award of variable amount, based on scholastic achievement (minimum 3.0 g.p.a.), character and leadership. Preference will be given to applicants from disadvantaged, underserved, urban communities. Named in honor of Carolyn M. Williams, former School of Library and information Science Administrative Assistant.

**H. W. Wilson Scholarships:** award of variable amount based on academic qualifications, character, and financial need. The scholarship is endowed by the H.W. Wilson Foundation, a long-time supporter of the field of information science.

**Student Travel Award:** awarded to support attendance at professional conferences, where students are encouraged to broaden their knowledge and share that knowledge and experience with other students.

**Student Writing Award:** an annual competition to encourage and acknowledge excellence in student writing. Documents submitted to the competition are usually papers or other media originally created for classroom assignments; original writing may also be submitted.

## Student Activities

**Student Organizations of Library and Information Science (SOLIS):** recognized by the university as the organization of students in the School of Library and information Science. Enrolled students automatically become members of the association. Meetings are held throughout the academic year.

**American Library Association (ALA)—Student Chapter:** Chartered by the ALA in 1988, the Chapter sponsors professional activities, promotes professionalism, and is open to all student ALA members.

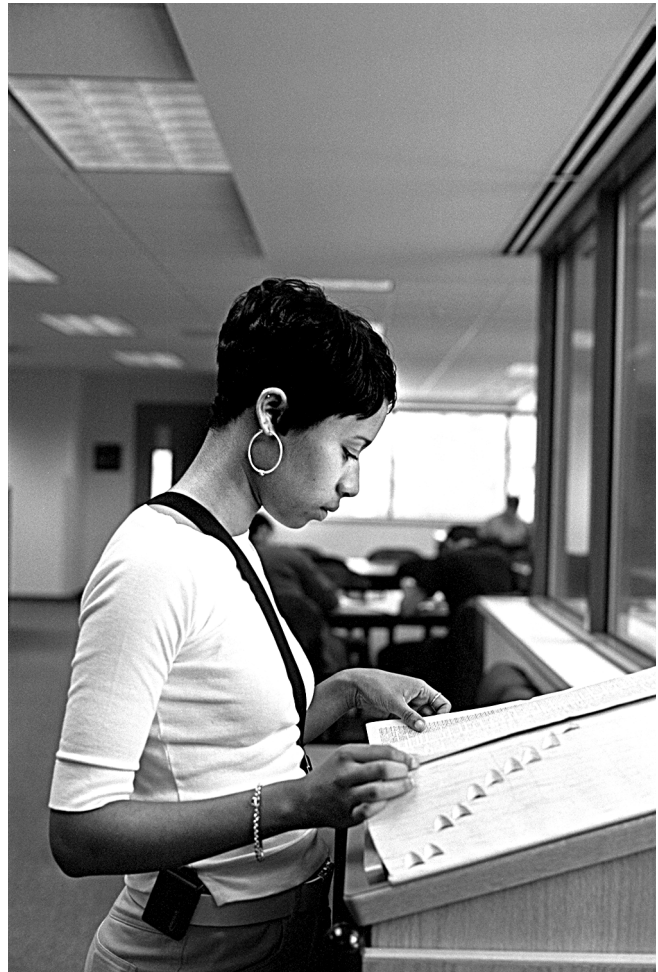
**Special Libraries Association (SLA)—Student Chapter:** Chartered by the SLA in 1989, the Group promotes professionalism, sponsors professional activities in special librarianship, and is open to all student SLA members.

**American Society for Information Science and Technology (ASIS&T)—Student Chapter:** Chartered by ASIS&T, the Chapter sponsors meetings and events throughout the year which promote the organization's goals concerning information technology and its transfer. Membership is interdisciplinary and is open to all student ASIS&T members.

**Society of American Archivists (SAA)—Student Chapter:** Chartered by the SAA in 1996, the chapter serves as a means of introducing and integrating new archivists into the profession; to engage in professional activities; to promote communication among student members of the Society; to develop leaders of tomorrow's archival profession; and to attract new members into the Society.

**Library and Information Science Alumni Association (LISAA):** Library and Information Science graduates have established the Library and Information Science Alumni Association, which is active

at the local level. Meetings are held frequently throughout the year covering a broad range of library interests, including public, school, academic, and special libraries. Alumni work with the School of Library and information Science to sponsor alumni gatherings at professional conferences.



# Graduate Courses (LIS)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## **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. (T)

## **6080 Information Technology. Cr. 3**

Prereq. or coreq: LIS 6010. Storage and retrieval problems as approached by conventional and nonconventional methods. Computer applications in libraries. Core course. (T)

## **6120 Access to Information. Cr. 3**

Prereq. or coreq: LIS 6010 and LIS 6080. 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. (T)

## **6210 Organization of Knowledge. Cr. 3**

Prereq. or coreq: LIS 6010 and LIS 6080. 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. (T)

## **6350 (I T 6110) Foundations of Instructional Systems Design. Cr. 4**

Prereq. or coreq: LIS 6010 and LIS 6080. Alternative systems models of instructional design; basic design principles, methods and techniques of pre-design analysis; instructional strategy selection and sequencing. (T)

## **6360 (I T 5110) Technology Applications in Education and Training. Cr. 3**

Prereq. or coreq: LIS 6010 and LIS 6080. Technological applications to education, training, and instruction within educational, industrial, and human services settings. Students examine, develop, and/or evaluate unique instructional programs. For educators and non-educators interested in exploring technological applications in education. (Y)

## **6370 (I T 5120) Producing Technology-Based Instructional Materials. Cr. 2-3**

Prereq. or coreq: LIS 6010 and LIS 6080. Design and development of instructional media and materials for use in educational, industrial, and/or human service programs; development of computer-generated instructional materials. (Y)

## **6510 (RLL 7720) Survey and Analysis of Current Literature for Children: PS-Grade 3. Cr. 3**

Prereq. or coreq: LIS 6010 and LIS 6080. 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. (T)

## **6520 (RLL 7740) Survey and Analysis of Literature for Older**

## **Children: Grades 4-8. Cr. 3**

Prereq. or coreq: LIS 6010 and LIS 6080. 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. (T)

## **6530 (EED 6310) Young Adult Literature Cr. 3**

Prereq. or coreq: LIS 6010 and LIS 6080. 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. (T)

## **6550 (RLL 7780) Storytelling. Cr. 3**

Prereq: LIS 6510. 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. (Y)

## **6780 Introduction to Records and Information Management. (HIS 6780) 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. (Y)

## **6800 IT for Records and Information Management. Cr. 3**

Prereq. or coreq: LIS 6780. Application of traditional and new electronic records and information management practices using organizational information technology (IT) tools and systems. (F)

## **7040 Library Administration and Management. Cr. 3**

Prereq: LIS 6010 and LIS 6080. Library as an organization in various settings, functional diversification, staffing patterns, program planning, budgeting, performance evaluation, communication, and public relations. Core course. (T)

## **7050 Public Libraries. Cr. 3**

Prereq: LIS 6010 and LIS 7040. Development of concepts introduced in LIS 6010; history, organization and function of public libraries; development of skills necessary to public librarianship. (W,S)

## **7060 Academic Libraries. Cr. 3**

Prereq: LIS 6010, 6080, and 7040. 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. (F)

## **7070 Special Libraries and Information Centers. Cr. 3**

Prereq: LIS 6120, LIS 7040. History, organization, and functions of various types of special libraries and skills necessary to deliver a wide range of services. (W)

## **7085 Arts/Museum Librarianship. Cr. 3**

Prereq: LIS 6120. Fundamental concepts concerning fine arts and museum libraries. (W)

## **7110 Humanities Information Services and Resources. Cr. 3**

Prereq: LIS 6120, LIS 6010, LIS 6080. The nature of the arts and the humanities; information needs of the artist, the humanistic scholar, and the layman; library programs in the arts and the humanities; problems of communication and information in the several humanistic fields of study. Material Fee As Indicated In The Schedule of Classes (S)

## **7120 Science and Technology Information Services and Resources. Cr. 3**

Prereq: LIS 6120, LIS 6010, LIS 6080. The generation, organization and pattern of bibliographic control of the literature of both the basic and the applied sciences. Characteristics of the scientific method and the scientific community. Bibliographic organization, reference tools and major databases. (T)

**7130 Social Sciences Information Services and Resources. Cr. 3**

Prereq: LIS 6120, LIS 6010, LIS 6080. Characteristics of the social science disciplines: structure, concepts, methods of investigation. Major figures and significant works in the general field. Bibliographic control, reference tools, instructional resources. Material Fee As Indicated In The Schedule of Classes (W)

**7140 Advanced Reference Service Strategies. Cr. 3**

Prereq: LIS 6120. Information needs and seeking behaviors, reference interview techniques, and information literacy. (I)

**7160 Advanced Online Searching. Cr. 3**

Prereq: LIS 6120, LIS 6010, LIS 6080. 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. (W)

**7250 Programming and Services for Children and Young Adults. Cr. 3**

Prereq: LIS 6010 and LIS 6080 plus three additional LIS credits. Principles and procedures for planning, managing and delivery of public library services to children and young adults. (Y)

**7310 School Library Media Programs. Cr. 3**

Prereq: LIS 6010, LIS 6080, and teaching certificate. 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. (T)

**7320 The Media Specialist as Teacher and Instructional Consultant. Cr. 3**

Prereq; or coreq: LIS 6010 and LIS 6080; and teaching certificate. 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. (T)

**7340 Collection Development and Selection of Materials. Cr. 3**

Prereq: LIS 6010; prereq. or coreq: LIS 6080. 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. (T)

**7350 (I T 7110) Advanced Instructional Design Tools and Techniques. (H E 7540) Cr. 4**

Prereq: LIS 6350, LIS 6010, LIS 6080. Exploration and application of those techniques, tools and competencies characteristic of expert designers. Topics may include: use of design software, program design, advanced analysis techniques, motivation design, rapid prototyping, reducing design cycle time, designing instruction for diverse learner populations. (Y)

**7370 Multicultural Information Services and Resources. Cr. 3**

Prereq: LIS 6010 and LIS 6120; prereq. or coreq: LIS 6080. Study of impact of cultural diversity on library services; development of relevant collections; effective interaction with a diverse community. (W)

**7400 Urban Libraries Seminar. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 7040. Interdisciplinary approach to planning, managing, and implementing services in urban libraries. (W)

**7410 Software Productivity Tools for Information. Cr. 3**

Prereq: LIS 6010, LIS 6080 or equiv. Concepts and skills for application and use of productivity tools in contemporary information environment. (Y)

**7415 Project Management. Cr. 3**

Prereq: LIS 6010, LIS 6080 and LIS 7040 or consent of instructor. Identification of current information systems and problems, determination and definition of information needs and requirements, evaluation of alternative solutions. (B)

**7420 Client-Based Website Development for Library and Information Science Professionals. Cr. 3**

Prereq: LIS 6010 and LIS 608, or consent of instructor. 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. (T)

**7430 Computing Resource Management. Cr. 3**

Prereq: LIS 6010, LIS 6080; LIS 7420 recommended. 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. (W)

**7435 Integrated Library Systems. Cr. 3**

Prereq: LIS 6010, LIS 6080 and LIS 6210 or consent of instructor. Practical experience with common Integrated Library Systems; understanding the role of ILS in function of the information organization. Extensive use of computing facilities. (W)

**7440 Scripting Languages for Library Applications. Cr. 3**

Prereq: LIS 6010, LIS 6080. Basic skills in using scripting languages to program and manipulate data structures for text information in library applications such as databases and websites. (F)

**7450 Digital Imaging. Cr. 3**

Prereq: LIS 6010, LIS 6080. Overview of imaging, metadata, color theory, digital preservation and graphics, video processing; role this technology plays in presentation and dissemination of information. (I)

**7460 Database Concepts and Applications for Librarians. Cr. 3**

Prereq: LIS 6010, LIS 6080; or consent of instructor. 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. (Y)

**7470 Information Architecture. Cr. 3**

Prereq: LIS 6010, LIS 6080; or consent of instructor. Dissemination of information that affects context, content and user. Associations with website development; use in technical writing, presentation preparation, report generation. (Y)

**7480 Knowledge Management for Library and Information Professionals. Cr. 3**

Prereq: LIS 6010, LIS 6080, and LIS 6210; 12 graduate credits or consent of instructor. Knowledge management principles, techniques, and technologies used in libraries and other information organizations. (I)

**7490 Competitive Intelligence and Data Mining. Cr. 3**

Prereq: LIS 6010, LIS 6080. 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. (Y)

**7491 Data Analytics. Cr. 3**

Prereq: LIS 6080. Key areas of information analytics used by data librarians: quantitative statistics, computer simulation, and data mining tools/techniques. (Y)



**7492 Information Visualization. Cr. 3**

Prereq: LIS 7080. Analysis of large data sets and drawing insights through use of information technology tools, statistical techniques, charts, and graphs. (W)

**7500 Information Behavior. Cr. 3**

Prereq: LIS 6010, LIS 6080. 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. (Y)

**7560 Seminar in Literature for Children and Young Adults: Special Topics. Cr. 3**

Prereq: LIS 6510 or LIS 6520 or LIS 6530. Survey and analysis of trends and issues in the areas of: publication trends, reading behaviors, author and genre studies, reader response to literature, and strategies for enhancing literary experiences. (B)

**7610 Health Sciences Information Services and Resources. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120 and LIS 6210. First in series of three courses, designed to provide students with skills necessary to become health sciences librarians. (F)

**7620 Electronic Access to Health Sciences Information. Cr. 3**

Prereq: LIS 6010 and LIS 6080. Access to health science information via various electronic access points, including Medline and other health-related databases, CD-ROM products and user-friendly software packages. (W)

**7635 (NUR 7515) End-of-Life Issues. (ANT 5430) (ANT 7430) (SOC 5020) (SOC 7020) Cr. 4**

Prereq: LIS 6010, LIS 6080. Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. (Y)

**7640 Practicum: Public Service. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with consent of advisor. Offered for S and U grades only. On-site experience in public library/information center under direction of professional librarian and supervision of faculty member; theory and competencies. Seminars to be arranged. (T)

**7645 Practicum: Urban Librarianship. Cr. 6**

Prereq: admission to Graduate Certificate program; LIS 6010 and LIS 6080. 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. (T)

**7650 Practicum: Health Science. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with consent of advisor. Offered for S and U grades only. Planned on-site experience in a health science library/information center under direction of a professional librarian and supervision of a member of the faculty. Theory and competencies relevant to the environment. Recommended for students without experience in these changing informational environments. Seminars to be arranged. (T)

**7655 Practicum: Information Management. Cr. 3**

Prereq: LIS 6080. Practical experience with technology-based information management under direction of information professional and supervision of faculty member. Theory and competencies relevant to the project activities. Seminars to be arranged. (T)

**7660 Practicum: Academic. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with consent of advisor. Offered for S and U grades only. On-site experience in academic library/informa-

tion center under direction of professional librarian and supervision of faculty member; theory and competencies. Seminars to be arranged. (T)

**7670 Practicum: Special. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with consent of advisor. Offered for S and U grades only. Experience in special library/information center under direction of professional librarian and supervision of faculty member; theory and competencies. Seminars to be arranged. (T)

**7675 Practicum: Arts/Museum Libraries. Cr. 3-6**

Open only to students in arts and museum librarianship certificate program. Offered for S, M, and U grades only. Prereq: 24 credits in LIS including 15 from core (excluding LIS 7996). On-site experience in arts/museum library, under direction of professional librarian and supervision of faculty member. Theory and competencies relevant to the environment. Seminars to be arranged. (T)

**7680 Practicum: School Media. Cr. 2-3**

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, LIS 7310 and LIS 7320, plus an additional nine LIS credits with consent of advisor. 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. (T)

**7685 Practicum: Archives. (HIS 7685) Cr. 3**

Prereq: LIS 7710, plus nine credits in AAC electives (final three AAC electives may be taken as coreq. with LIS 7685). Offered for S and U grades only. 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. (W,S)

**7695 Practicum: Records and Information Management. Cr. 3**

Offered for S and U grades only. Prereq: LIS 6780, LIS 6800, and LIS 8500. Planned on-site experience in records and information management under direction of RIM professional and under supervision of faculty member. Theory and competencies relevant to the environment. (T)

**7710 (HIS 7840) Archival Administration. Cr. 3**

Basic training in archival methods. (F)

**7730 (HIS 7890) Administration and Preservation of Visual Collections. Cr. 3**

Prereq: LIS 7710. Basic course in the fundamentals of administering a visual collection: evaluation, organization, and control of visual collections in archives, librarians, historical agencies, and museums. (W)

**7740 Archives and Libraries in the Digital World. (HIS 7745) Cr. 3**

Overview of electronic tools and the role of digital process in libraries and archives. (S)

**7750 Introduction to Archival and Library Conservation. (HIS 7810) Cr. 3**

Fundamentals of archival and library conservation problems and methods essential for effective preservation management of paper and associated materials. (S)

**7770 (HIS 7860) Oral History: A Methodology for Research. (ANT 6360) Cr. 3**

Techniques of gathering data from individuals for use in research, classroom teaching, historical, cultural or other contexts. (S)

**7780 Electronic Archives. (HIS 7820) Cr. 3**

Prereq: LIS 7710. Current trends in electronic resources used in archival administration. (Y)

**7790 History of Books, Printing, and Publishing. Cr. 3**

Prereq: LIS 6010, LIS 6080. 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. (Y)

**7850 Issues in Librarianship. Cr. 1-3 (Max. 9)**

Prereq: LIS 6010 and LIS 6080. Critical analysis of library research, socio-technological trends, implications for the profession. Topics to be announced in Schedule of Classes. (Y)

**7870 Evaluation of Library and Information Resources and Services. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120, and LIS 6210. Overview of applied research; emphasis on evaluation research as it relates to library and information resources and services. (W)

**7880 Instructional Methods for Librarians. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120. Introduction to library instruction, bibliographic instruction, information literacy, or user education for those expected to provide library instruction to clients. (I)

**7885 (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. (F)

**7940 Human-Computer Interaction. Cr. 3**

Prereq: LIS 7420 or permission of instructor. Study of the interactions between human beings and computer technologies through usability evaluations and user experience design. (W)

**7990 Research and Directed Study. Cr. 1-8 (Max. 8)**

Prereq: LIS 6010, LIS 6080; written consent of advisor, program director, and Dean on Petition and Authorization for Directed Study form prior to registration. Directed study and individual research under faculty guidance. Material Fee As Indicated In The Schedule of Classes (T)

**7996 Research in Library and Information Science. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120, and LIS 6210. Role of research in development of the profession. Research methods; analysis and evaluation of research reports. Core course. (T)

**8000 Seminar in Information Policy. Cr. 3**

Prereq: LIS 6010 and LIS 6080. 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. (Y)

**8040 Advanced Library and Information Science Administration and Management. Cr. 3**

Prereq: LIS 7040. Theory and practice of upper-level management in libraries, information centers, records and information management environments and archives. (W)

**8110 Government Information Policies and Resources. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120. Selection, acquisition, access, and reference use of major federal, state and local documents. Overview of federal publishing program; the document-generating processes of congress, the judiciary, and the executive departments and regulatory agencies; the federal, state and local documentary system. Federal information policies and role of professional and governmental agencies in formulating policy. Material Fee As Indicated In The Schedule of Classes (Y)

**8120 Legal Information Resources and Services. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120. 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. Material Fee As Indicated In The Schedule of Classes (Y)

**8130 Business and Industry Information Resources. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6120. Exploration of the structure, functional organization, and information needs of industrial, investment, and business enterprises. Study of bibliographic control of relevant literature, information sources, and specialized services. Material Fee As Indicated In The Schedule of Classes (F)

**8210 Advanced Classification and Cataloging. Cr. 3**

Prereq: LIS 6010, LIS 6080, LIS 6210 or consent of instructor. Advanced problems in descriptive cataloging, including different forms of materials, and automated cataloging. Further study of theory, structure and application of classification systems and subject heading lists. Material Fee As Indicated In The Schedule of Classes (Y)

**8230 Indexing and Abstracting. Cr. 3**

Prereq: LIS 6010 and LIS 6080. Indexing and abstracting theoretics, standards, and practice in a range of disciplines, materials, and formats. Vocabulary control and thesaurus construction. Automatic indexing and computerized applications in information processing. (F)

**8320 Information Issues and the Digital Environment. (LIS 8320) Cr. 3**

Prereq: LIS 6010 and LIS 6080; plus twelve LIS credits or consent of instructor. Fundamentals of production, dissemination, storage, preservation and use of digital records; policy issues. (W)

**8330 History and Foundations of Information Science and Culture. Cr. 3**

Prereq: LIS 6010 and LIS 6080 plus six LIS credits or consent of instructor. Students rethink information science through review of historical and theoretical texts that go beyond the field. (I)

**8370 Cultural Competence for Library and Information Professionals. Cr. 3**

Discussion of socio-historical emergence of multiple user communities as a prerequisite for integrating library services into these communities. (I)

**8410 topics in Information Management. Cr. 1-3 (Max. 12)**

Prereq: LIS 6010, LIS 6080; consent of advisor. Current topics affecting information management systems and services. Topics to be announced in Schedule of Classes. Material Fee As Indicated In The Schedule of Classes (T)

**8500 Advanced Records and Information Management. Cr. 3**

Prereq: LIS 6080 and LIS 6780 or equivalent skills. Application of traditional and innovative electronic records and information management practices using organizational information technology (IT) tools and systems. (F)

**8998 Specialist's Research Seminar. Cr. 3**

Prereq: written consent of advisor. Advanced research methods and application. (S)

# School of Medicine

INTERIM DEAN: Valerie M. Parisi

# Medical School Calendar 2012-2014

*(The following calendar is a tentative schedule for the M.D. curriculum)*

## **YEAR I STUDENTS — 2012-2013**

Registration and Orientation .Mon.-Fri., Jul. 30 - Aug 3, 2012  
Classes Begin . . . . . Mon., Aug 6, 2012  
Labor Day Recess . . . . . Mon., Sept. 3, 2012  
Thanksgiving Recess. . . . . Thurs. and Fri., Nov. 22-23, 2012  
Winter Recess . . . . . Mon., Dec. 17, 2012 - Wed., Jan. 2, 2013  
Spring Recess . . . . . Mar., 2013  
Classes End. . . . . Fri., May 10, 2013

## **YEAR II STUDENTS — 2012-2013**

Registration . . . . . Thurs. - Fri., May 10-11, 2012  
Classes Begin . . . . . Mon., Jul 30, 2012  
Labor Day Recess . . . . . Mon., Sept. 3, 2012  
Thanksgiving Recess. . . . . Thurs. and Fri., Nov, 22-23, 2012  
Winter Recess . . . . . Mon., Dec. 17, 2012 - Wed., Jan 2, 2013  
Martin Luther King, Jr. Recess. . . . . Mon., Jan. 21, 2013  
Spring Recess . . . . . Mar., 2013  
Classed End . . . . . Mon., June 24, 2013

## **YEAR III STUDENTS — 2012-2013**

Registration . . . . . Wed., - Fri., May 9-10, 2012  
Academic Year Begins. . . . . Thurs., Jun. 28, 2012  
Orientation . . . . . Thurs. and Fri., Jun 28-29, 2012  
Independence Day Recess . . . . . Wed., July 4, 2012  
Labor Day Recess . . . . . Mon., Sept. 3, 2012  
Thanksgiving Recess. . . . . Thurs. and Fri., Nov. 22-23, 2012  
Winter Recess . . . . . Thurs., Dec. 20, 2012 - Tues., Jan. 1, 2013  
Martin Luther King, Jr. Recess. . . . . Mon., Jan 21, 2013  
Memorial Day Recess . . . . . Mon., May 27, 2013  
Rotation I . . . . . July and Aug., 2012  
Rotation II . . . . . Sept. and Oct., 2012  
Rotation III . . . . . Nov. and Dec., 2012  
Rotation IV . . . . . Jan. and Feb., 2013  
Rotation V . . . . . Mar. and April, 2013  
Rotation VI . . . . . May and Jun., 2013  
OSCE Examination . . . . . To Be Announced  
Classes End. . . . . Sun., Jun. 16, 2013

## **YEAR IV STUDENTS — 2012-2013**

Registration . . . . . Thurs. - Fri., June 14-15, 2012  
Academic Year Begins. . . . . Mon., July 2, 2012  
Period 1 . . . . . July, 2012  
Period 2 . . . . . Aug., 2012  
Period 3 . . . . . Sept., 2012  
Period 4 . . . . . Oct., 2012  
Period 5 . . . . . Nov., 2012  
Period 6 . . . . . Dec., 2012  
Period 7 . . . . . Jan., 2013  
Period 8 . . . . . Feb., 2013  
Period 9 . . . . . Mar., 2013  
Period 10 . . . . . April, 2013  
Period 11 . . . . . May, 2013  
Residency Match Day . . . . . Mar., 2013  
Commencement . . . . . June, 2013

## **YEAR I STUDENTS — 2013-2014**

Registration & Orientation . . Mon.-Fri., Jul. 29 - Aug. 2, 2013  
Classes Begin . . . . . Mon., Aug. 5, 2013  
Labor Day Recess. . . . . Mon., Sept. 2, 2013  
Thanksgiving Recess . . . . . Thurs. and Fri., Nov. 28-29, 2013  
Winter Recess . . . . . Dec., 2013  
Martin Luther King, Jr. Recess . . . . . Mon., Jan. 20, 2014  
Spring Recess . . . . . Mar., 2014  
Classes End . . . . . May, 2014

## **YEAR II STUDENTS — 2013-2014**

Registration . . . . . Thurs. and Fri., May 9-10, 2013  
Classes Begin . . . . . Mon., July 29, 2013  
Labor Day Recess. . . . . Mon., Sept. 2, 2013  
Thanksgiving Recess . . . . . Thurs. and Fri., Nov. 28-29, 2013  
Winter Recess . . . . . Dec., 2013  
Martin Luther King, Jr. Recess . . . . . Mon., Jan. 20, 2014  
Spring Recess . . . . . Mar., 2014  
Classes End . . . . . June 2014

## **YEAR III STUDENTS — 2013-2014**

Registration . . . . . Thurs. and Fri., May 9-10, 2013  
Orientation/Begin Classes. . . . . Jun., 2013  
Independence Day . . . . . Thurs., Jul. 4, 2013  
Labor Day Recess. . . . . Mon., Sept. 2, 2013  
Thanksgiving Recess . . . . . Thurs. and Fri., Nov 28-29, 2013  
Winter Recess . . . . . Dec., 2013  
Martin Luther King, Jr. Recess . . . . . Mon., Jan. 20, 2014  
Memorial Day Recess . . . . . Mon., May 26, 2014  
Rotation I . . . . . July and Aug., 2013  
Rotation II . . . . . Sept. and Oct., 2013  
Rotation III . . . . . Nov. and Dec., 2013  
Rotation IV . . . . . Jan. and Feb., 2014  
Rotation V . . . . . Mar. and Apr., 2014  
Rotation VI . . . . . May and Jun., 2014  
OSCE Examination . . . . . Jun., 2014  
Classes End . . . . . Jun., 2014

## **YEAR IV STUDENTS — 2013-2014**

Registration . . . . . Thurs. and Fri., June 13-14, 2013  
Period I . . . . . July, 2013  
Period 2 . . . . . Aug., 2013  
Period 3 . . . . . Sept., 2013  
Period 4 . . . . . Oct., 2013  
Period 5 . . . . . Nov., 2013  
Period 6 . . . . . Dec., 2013  
Period 7 . . . . . Jan., 2014  
Period 8 . . . . . Feb., 2014  
Period 9 . . . . . Mar., 2014  
Period 10 . . . . . Mar., 2014  
Period 11 . . . . . Mar., 2014  
Residency Match Day . . . . . Mar., 2014  
Commencement . . . . . June, 2014

# Foreword

The primary mission of the School of Medicine is to improve the overall health of the Michigan community by providing medical and biotechnical knowledge and trained professionals in medical fields.

The School offers educational programs leading to the Doctor of Medicine, Doctor of Philosophy, Master of Science and Master of Arts degrees. Graduate education in clinical fields, post-doctoral study and continuing medical education programs, as well as a joint M.D.-Ph.D. degree also are offered. About 300 students are admitted annually to the M.D. program and approximately 370 students are enrolled in Ph.D. or master's degree study in nineteen program areas, including the M.D./Ph.D. combined-degree program, predominantly in the basic medical sciences. More than 900 students are post-graduate trainees as medical residents, post-doctoral fellows, or fellows in twenty-nine different clinical research programs. Continuing education programs, seminars and colloquiums serve the faculty and students of the School as well as professionals throughout the community as a resource for current and ongoing developments in the health sciences. In addition to degree programs, the School offers courses in many basic medical science disciplines appropriate for students in other colleges and schools of 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 the activities in the School of Medicine. Fundamental and applied research in biomedical sciences, clinical specialties, and health care systems is directed by faculty of the School. Research programs at the School are supported by more than \$140 million annually in 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 are modern, well-equipped and continually growing with the pace of current technological advances.

The clinical services provided by the faculty, post-graduates and students in the School are rendered predominantly through the Detroit Medical Center institutions, including five hospitals on the downtown campus, three hospitals outside the campus and in the near suburbs, and many outpatient facilities throughout the greater Detroit area. The School also is affiliated with fourteen other hospitals throughout the metropolitan area for the purpose of conducting undergraduate and graduate medical education.

The School also 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 health care to staff other institutions and to practice in the community. Furthermore, the School is committed to its educational and care delivery activities within the context of medical education as a national activity, to which each institution contributes responsibly according to its abilities and resource.

## History of the School

The School of Medicine of Wayne State University has been operating and granting degrees as a college of medicine since 1868. Originally named the Detroit Medical College, it was founded by Dr. Theodore A. McGraw, a native of Detroit who returned to the city in 1865 after serving for two years in the United States Army as a contract surgeon.

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 known then, 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 General Anthony Wayne. Wayne University became a state institution in 1956.

With a total enrollment of more than 1,000 medical students, the Wayne State University School of Medicine is the largest single campus medical school in the country.

## Accreditation

Programs in the Wayne State University School of Medicine are accredited by the Liaison Committee on Medical Education, representing the American Medical Association and the Association of American Medical Colleges (M.D. program); the Liaison Committee of Graduate Medical Education of the Accrediting Council for Graduate Medical Education and various Residency Review Committees (Residency Programs); and the Accreditation Council of Continuing Medical Education (Continuing Medical Education).

## GRADUATE DEGREES and CERTIFICATES

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 which offer Master of Science or Doctor of Philosophy degrees.

### *DOCTOR OF MEDICINE*

#### *DOCTOR OF PHILOSOPHY with a major in:*

*Anatomy and Cell Biology*  
*Biochemistry and Molecular Biology*  
*Cancer Biology*  
*Cancer Biology and Clinical Translational Science (Dual Title)*  
*Immunology and Microbiology*  
*Medical Physics*  
*Molecular Biology and Genetics*  
*Pathology*  
*Pharmacology*  
*Physiology*  
*Translational Neuroscience*

### *JOINT M.D. / PH.D. IN MEDICINE*

#### *MASTER OF SCIENCE with a major in:*

*Biochemistry and Molecular Biology*  
*Physiology*  
*Radiological Physics*

### *MASTER OF PUBLIC HEALTH*

### *MASTER OF SCIENCE IN BASIC MEDICAL SCIENCES*

### *MASTER OF SCIENCE IN GENETIC COUNSELING*

### *MASTER OF SCIENCE IN MEDICAL RESEARCH*

### *GRADUATE CERTIFICATE in*

*Clinical and Translational Science (Bridge Program)*  
*Global Pediatric Health*  
*Public Health Practice*

## Wayne State University Medical School Facilities

**The Richard J. Mazurek, M.D., Medical Education Commons** is the main education building for the School of Medicine. It provides facilities for pre-clinical and basic science education, basic science departments, computer laboratories and many of the administrative offices of the School. It also is home to the Kado Clinical Skills Center, where students interact with trained patients in a floor of exam rooms, and with state-of-the-art patient simulators in a number of emergency rooms.

**Gordon H. Scott Hall** houses research laboratories for basic and clinical programs, lecture halls, administrators' offices and the dean's offices.

**The Helen Vera Prentis Lande Medical Research Building** houses research laboratories for clinical and basic science faculty.

**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**, adjacent to the Wertz Clinical Cancer Center at Harper University Hospital, provides basic research and collaborative activities near a clinical setting.

The School of Medicine is closely affiliated with a Veterans Administration hospital, seven Detroit Medical Center hospitals, Henry Ford Hospital, Oakwood Hospital and Medical Center, Crittenton and other major urban and suburban hospitals in the metropolitan Detroit area. All offer programs for third- and fourth-year medical students.

Wayne State University also works in affiliation with the Barbara Ann Karmanos Cancer Institute, one of the nation's leading cancer research, treatment, education and outreach centers.

## Detroit Medical Center Facilities

The Detroit Medical Center includes:

**Children's Hospital of Michigan**, which specializes in medical research and treatment for 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/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;

**Harper University Hospital**, which specializes in oncology, cardiology, general surgery and a number of additional surgical specialties and subspecialties;

**Hutzel Women's Hospital**, adjacent to Harper University Hospital, which includes among its areas of excellence: obstetrics, gynecology, gynecologic oncology, neonatology, perinatology, and urology; Hutzel Hospital houses the Perinatology Research Branch of the National Institutes of Health and the National Institute of Child Health and Human Development;

**Huron Valley-Sinai Hospital**, located in a northern suburb, is a general medical-surgical community hospital;

**The Orthopaedic Specialty Hospital**, located in a near suburb, is the only hospital in Michigan dedicated to orthopaedics;

**Sinai-Grace Hospital**, a full-service hospital in northwest Detroit;

**Rehabilitation Institute of Michigan**, which uses an interdisciplinary approach to help physically disabled persons reach their maximum level of independence;

**Kresge Eye Institute** of Wayne State University is a major center for research and treatment of eye diseases;

**Gershenson Radiation Oncology Center**, which provides high-technology radiation treatment services for the Barbara Ann Karmanos Cancer Institute and all medical center hospitals. A magnetic resonance imaging center and the world's first superconducting cyclotron are housed there.

## Shiffman Medical Library and Learning Resources Centers

*Director:* Mark Spasser

*Associate Director:* Sandra I. Martin

*Website:* <http://www.lib.wayne.edu/shiffman/>

**HOURS:**

*Monday - Thursday:* 7:30 a.m. - midnight

*Friday:* 7:30 a.m. - 8:00 p.m.

*Saturday:* 12:00 noon. - 8:00 p.m.

*Sunday:* 12:00 noon. - 8:00 p.m.

*Librarians:* LaVentra Ellis-Danquah, Linda A. Draper, Wendy Gang Wu

E-mail: [askmed@wayne.edu](mailto:askmed@wayne.edu)

Circulation and Reserves: 313-577-4118

Reference and Research: 313-577-1094

Information Management and Educational Programs: 313-577-6665

Document Delivery: 313-577-1094

*HOURS:* Mon.-Thurs., 7:30 am - 12 Midnight; Fri. 7:30 am - 8 pm; Sat. & Sun. Noon - 8 pm

Library services are provided to graduate students through a variety of programs held at the newly renovated Shiffman Medical Library in the Richard J. Mazurek Medical Education Commons. Resources and services are also available online including over 4200 online journals in the health sciences, a large number of e-books and the delivery of documents to the student's desktop. Orientation programs, small group workshops and individualized instruction featuring the latest information resources are available to graduate students throughout their program and may be requested via [askmed@wayne.edu](mailto:askmed@wayne.edu). Key services in support of graduate education include: reference service, remote and on-site electronic access to the major biomedical databases including PubMed, Science Citation Index, the National Center for Biotechnology Information, Dissertation Abstracts with full text, and an array of electronic tools for effective information management. Materials not available in the WSU Libraries are obtained for graduate students free of charge. Access to the libraries of the University of Michigan, Michigan State University and various specialized collections is also available to graduate students. See <http://www.lib.wayne.edu/shiffman/> or consider sending an inquiry to [askmed@wayne.edu](mailto:askmed@wayne.edu) for more information about access to the above resources, to sign up for workshops, to ask reference questions, or to make suggestions to the library.

The library's goal is to support each graduate student's individualized needs until graduation and throughout her or his career. Librarians are available for consultation, for help in identifying useful literature and using the latest file management programs to organize the references at any point during their program. Librarians can also provide students with tips for time-saving ways to use in preparing manuscripts. In addition the library has access to a number of databases to assist students in acquiring external funding. The library staff is committed to acquiring the materials needed to support the array of graduate programs offered by the affiliated colleges. Students are encouraged to identify their needs regularly.

A computer lab is available in the library for graduate students use. The lab contains ten workstations, one adaptive workstation, a stand-alone scanner, and a fully wired teacher's lectern.

Please contact the library for more information about current and planned services. The staff of the Shiffman Library is committed to enabling transparent discovery and access to the best possible resources that expeditiously and effectively meet student and faculty needs.

## Office of Student Affairs

*Assistant Dean for Student Affairs:* Kertia L. Black, M.D.

This office is under the supervision of an assistant dean. It includes: academic, career, and personal counseling services; financial aid counseling; tutorial services; a special study skills consultation service; support for student government and organization activities as well as oversight of the Post-Baccalaureate 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.

## Academic Services

**Counseling:** Appointments for confidential academic, personal and career counseling can be arranged through the Office of Student Affairs.

**Academic Resources Counseling:** A specialist in techniques designed for the medical curriculum is available to all students seeking to improve and/or enhance their academic performance. Individual tutoring services are available, as well as group review sessions.

**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.

E-mail Address: Kblack@med.wayne.edu

Web Address: [http://www.med.wayne.edu/student\\_affairs](http://www.med.wayne.edu/student_affairs)

Phone: 313-577-1463; Fax: 313-577-0361

## Development

*Office:* U.H.C. 6F and 6G, 4201 St. Antoine, Mailbox 253, Detroit, MI 48201

*Director of Development:* Lori Haddad Robitaille

This Office maintains a staff to support all aspects of fund raising from private sources. It is dedicated to helping meet current challenges and prepare for future opportunities in keeping with the spirit and traditions established by the School's founders.

The Development Office's fund-raising program is based on the premise that the personal and financial involvement of its alumni and friends enhance the quality and reputation of this School. Only through a broad base of volunteer assistance can the School of Medicine secure enough private gifts to help supplement State assistance, tuition, and other means of support essential to providing an outstanding program of education and research.

## Office of Alumni Affairs

*Office:* 540 E. Canfield, 1272 Scott Hall, Detroit, MI 48201

*Director of Alumni Affairs:* Sue Helderop

The purpose of the Office of Alumni Affairs is to advance the School of Medicine's (SOM) mission by promoting partnerships of alumni and the School of Medicine. This is done by administrating the SOM Alumni Association's events and activities including Alumni Annual Fund which supports SOM student organizations and projects; developing programming that brings alumni together; collaborating internally with SOM offices such as Admissions and Student Affairs to connect alumni with medical students; and by identifying, training and appreciating alumni volunteers who use their experiences and leadership skills in ways that benefit the School.

## Department of Public Affairs

*Office:* 540 E. Canfield, 1369 Scott Hall, Detroit, MI 48201

This department is responsible for the communications and public relations programs for the School. The office publishes alumni and faculty newsletters and a variety of collateral publications. In addition, the department conducts media relations and promotional activities and serves as an information resource regarding faculty, student and alumni achievement related to research, clinical care, and medical education.

## SCHOOL DIRECTORY

University Telephone Area Code: 313

DEAN: 1241 Scott Hall; 577-1335

ADMINISTRATION AND FINANCE:  
1241 Scott Hall; 577-1448

CONTINUING MEDICAL EDUCATION:  
4201 St. Antoine, 9A-UHC101; 577-1180

DEVELOPMENT AND ALUMNI AFFAIRS

Alumni Affairs: 540 E. Canfield, 1272 Scott Hall, Detroit, MI 4820.; 577-3587

Development: 4201 St. Antoine, 6F and 6G, Mailbox 253, U.H.C., Detroit, MI 48201; 577-1495

Public Affairs: 540 E. Canfield, 1369 Scott Hall, Detroit, MI 4820.; 577-1429

PERSONNEL OFFICE:

154 Lande Medical Research Bldg.; 577-1163

INFORMATION: 1102 Scott Hall; 577-1460

M.D. PROGRAMS:

Academic & Student Programs: 310 Mazurek; 577-1450

Admissions: 322 Mazurek; 577-1466

Student Affairs: 315 Mazurek; 577-1463

Financial Aid: 317 Mazurek; 577-1039

Graduate Medical Education, 540 E. Canfield, 1310 Scott Hall, Detroit, MI 48201; 577-5189

Records and Registration: 318 Mazurek; 577-1470

Ph.D. AND M.S. PROGRAMS: 1128 Scott Hall; 577-1455

RESEARCH: 1261 Scott Hall; 577-9553

RESIDENCY GRADUATE MEDICAL EDUCATION:

4201 St. Antoine, 9C - U. H. C.; 745-5146

SPONSORED PROGRAM ADMINISTRATION:

5057 Woodward, 13th Floor; 577-1445

*Mailing address for all Scott Hall offices:* Wayne State University, School of Medicine, 540 East Canfield, Detroit, Michigan 48201

*Mailing address for Mazurek offices:* Wayne State University, School of Medicine, 320 East Canfield, Detroit, Michigan 48201

# Doctor of Medicine

## Educational Goals

The Wayne State University School of Medicine has established a comprehensive set of competencies and institutional learning objectives for the Doctor of Medicine program. This list formalizes the goals of a WSU medical education, and defines what a graduating physician should know to practice medicine in the 21st century. There are six general competencies, including: 1) integration of the basic sciences in medicine; 2) integration of clinical knowledge and skills to patient care; 3) interpersonal and communication skills; 4) professionalism; 5) organizational and systems-based approaches to medicine, and; 6) life-long learning and self-improvement. Each of these competencies is further refined into specific educational objectives which are taught and measured through the medical school curriculum. For more detail about the competencies and educational objectives, go to the School of Medicine website at <http://www.med.wayne.edu/educational%5Fprograms/form.asp>

## Admission and Registration — M.D.

*Associate Dean for Admissions:* Silas Norman, M.D.

The School of Medicine currently accepts 290 students selected from a large number of applicants to its entering class. Every effort is made to choose those students who possess the academic and personal characteristics which will enable them to succeed in completing the School of Medicine curriculum.

## Academic Recommendations for Admission

Although the Wayne State University School of Medicine prefers that applicants for admission have earned a bachelor's degree, it will occasionally consider students of unusual academic attainment and maturity who have completed three years of college.

Recommended subjects for baccalaureate preparation are: general physics with laboratory, one year; inorganic and organic chemistry with laboratory, one year each; general biology or zoology with laboratory. The student is urged to select additional subjects which will contribute substantially to a broad cultural background.

It is to be noted that when students are accepted before completion of their premedical requirements, they must maintain a satisfactory scholastic average in their continued premedical work to warrant enrollment in the School of Medicine.

The *Medical College Admission Test* is required of all applicants for admission into the first year class. Students seeking admission into the September freshman class should take this test no later than October of the previous year. After a preliminary review of application credentials, interviews are held with those applicants who warrant further consideration.

## Admission to the First-Year Class

The School of Medicine adheres to the acceptance procedures of the Association of American Medical Colleges, including the 'Early Decision Plan.' Admission procedures of the School are:

1. No place in the first-year class shall be offered to an applicant more than one year before the actual start of instruction for that class.
2. Following the receipt of an offer of a place in the first-year class, a student shall be allowed two weeks in which to make a written reply.
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.
4. No student who has at any time been requested to withdraw from any reason from a medical school in which he/she has been regis-

tered will be accepted by the WSU School of Medicine. Students who have been dropped for poor scholarship by the School of Medicine should not expect favorable consideration for readmission.

5. Any applicant accepted by the School of Medicine who does not complete enrollment must apply for readmission and meet all requirements in force at the time of such new application.

## Admission with Advanced Standing

Students from approved L.C.M.E. American medical schools may be admitted with advanced standing to the second and third years only, subject to the number of vacancies which may exist in the second and third years. Application for advanced standing should be made not later than July 15. The following requirements must be met:

1. An applicant must have matriculated as a student in an approved 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 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 withdrawing. A letter of support from the dean of that school is required.
4. The applicant must take such examinations in the courses for which he/she seeks credit as may be required by the faculty of the School of Medicine, such as the USMLE Step 1 examination.

## Diversity and Integrated Student Services

*Interim Director:* DeAndrea Wiggins

This unit supports the medical school to maintain its representation of diversity across economic, personal and social dimensions. This is accomplished through pipeline outreach programs and special projects that present a combination of academic and extra-curricular activities designed to inform high school, undergraduate and post-baccalaureate students about career opportunities in medicine and other health professions, and prepare them to gain admission.

A special program feature of the unit is the Post Baccalaureate Program. This medical school preparatory program offers an opportunity to a small number of applicants who are Michigan residents, and whose undergraduate academic achievement has been compromised by certain disadvantaging factors to gain admission into medical school. Successful completion of this special one year program facilitates entry into medical school for those selected applicants from disadvantaged backgrounds.

## Registration Requirements

**Physical Examination:** Freshman medical students are sent a physical form with registration materials. Each student must present proof of a physical examination at or before registration for the freshman year. Students are also required to be annually tested for TB (skin test or chest x-ray).

**Health Insurance:** Health insurance is mandatory and students must demonstrate proof of insurance at registration. Students have the option of purchasing the group plan offered by the Medical School, which can be purchased at registration.

**Transcripts:** Transcripts of all university-level work must be on file in the Registrar's Office for each medical student, including the degree statement from the university from which the student obtained his/her degree.

**Disability Insurance** is mandatory and can be purchased at registration.



## FEES

All fees are payable in advance. Listed below are the fees in effect as of the publication of this bulletin. They are subject to change at any time without notice by action of the Board of Governors.

### MEDICAL STUDENT FEES REGULAR PROGRAM

Annual Tuition: Resident: \$29,412.50; Nonresident: \$61,212.50  
(based on fifty credits) (\$1307.50 Omnibus Fee and the \$25.00  
Fitness Center fee is included.)

Annual Student Support Fee for Years I - IV: \$550.00

**Cancellation of Registration and Refunds:** If a student finds it necessary to withdraw from the University, he/she should notify the Office of Student Affairs, Wayne State University School of Medicine, in writing. If notice of withdrawal is sent by mail, the date of its postmark will be considered the effective date. Please see <http://www.med.wayne.edu> regarding the refund schedule.

**Books and Equipment:** The total four-year cost for books, supplies and equipment is approximately \$5,726. The costs are approximately \$3,726 for the first two years, and \$2,000 for the subsequent two years. Books and equipment are available in bookstores near the School. Student organizations and volunteers also conduct sales of certain equipment and of used books each year.

## Financial Aid

The primary responsibility for financing a medical education rests with the student and his or her family. However, assistance is available to students who demonstrate financial need and meet all other eligibility criteria. Students anticipating the need for financial assistance during their medical education should begin researching their options as early as possible.

Students wishing to be considered for financial assistance must begin by completing a Free Application for Federal Student Aid (FAFSA) online at <http://www.fafsa.ed.gov>. Although medical students are automatically considered independent for the purposes of completing the FAFSA, parental data is required if a student wishes to be considered for institutional aid programs. The School of Medicine's priority filing deadline is March 1st of each year. Students interested in attending the WSU School of Medicine should complete the application process by the priority date even if their admission has not yet been confirmed. Complete application instructions and other required documents are available on the School of Medicine's Web site, [http://www.med.wayne.edu/student\\_affairs/financial\\_aid](http://www.med.wayne.edu/student_affairs/financial_aid).

For students who qualify, financial aid is available in the form of loans, grants, scholarships and/or work-study, from federal, state, institutional and/or private sources. Offers of assistance are made to students after they have fulfilled all financial aid requirements and have been admitted to the School of Medicine.

The Admissions Office awards renewable tuition scholarships to ten incoming freshmen per year in the amount of resident tuition. Partial tuition Board of Governors grants are awarded to medical students each year based on family financial need. Restricted private donor and organization funds are awarded to students who demonstrate financial need and meet the guidelines specified by the donor. Student loans are available through U.S. and Canadian government loan programs and credit-based private educational loan programs. Some credit-based private educational loan programs require that non-U.S. students provide a creditworthy U.S. co-signer.

Service obligation programs are available to students who are willing to fulfill a commitment of 'service' to the organization providing the funding. Most programs require one year of service for each year of funding. The Health Professions Scholarship Program offered by the Army, Navy and Air Force requires payback as a military medical officer. The U.S. Public Health Service offers the National Health Service Corps scholarship to medical students who commit to practicing pri-

mary care medicine in federally designated physician shortage areas for their service payback.

Students may wish to pursue outside sources of aid through community foundations, clubs, churches, employers, hospitals, or other non-profit agencies. Web-based scholarship searches are available at no cost to the user. Students should avoid using fee-based scholarship search services and be wary of scholarship scams.

The School of Medicine Office of Financial Aid is located at 317 Mazurek Education Commons, 320 East Canfield, Detroit, MI 48201 and may be reached by calling (313) 577-1039.

## M.D. DEGREE REQUIREMENTS

*Vice Dean for Medical Education:*

Mary Jean Schenk, MPH, M.D.

*Assistant Dean for Basic Science Education*

Matt Jackson, Ph.D.

*Assistant Dean for Clinical Science Education*

Renee Page, M.D.

*Assistant Dean for Student Affairs*

Lisa Mclean, M.D.

*Associate Dean for Undergraduate Medical Education*

Patrick D. Bridge, Ph.D.

*Director of Student Information:*

Mark Speece, Ph.D.

The Office of Undergraduate Medical Education is responsible for the overall management, administration, and supervision of the undergraduate medical curriculum. In addition, Diversity and Integrated Student Services and Conjoint Teaching Services are units under the direction of this office.

## Academic Program

The undergraduate program in medicine consists of a core curriculum in normal and abnormal human biology followed by clerkships in clinical medicine and a year of required and elective experiences.

In the first year, through concentrated study of anatomy, histology, embryology, physiology, biochemistry, and genetics, students learn about the normal structure and function of the human body. In addition, there are units of study devoted to the neurosciences, and to an introduction to clinical medicine.

In the second year, through concentrated study of pathology, immunology and microbiology, pharmacology, and psychiatry, students learn the basics of the effects of disease processes on structure and function, and the principles of drug action and therapy. This is followed by interdisciplinary organ system units of study devoted primarily to pathophysiology. Clinicians as well as basic scientists serve as lecturers. Additionally, through the clinical medicine II course, students receive training in preventive medicine, human values and ethics, physical diagnosis, clinical interviewing, human sexuality, laboratory medicine, and public health.

The third year curriculum consists of clerkships providing inpatient and outpatient clinical education and training in internal medicine, surgery, gynecology/obstetrics, pediatrics, psychiatry, neurology, and family medicine, and an office-based continuity clerkship.

The fourth year is devoted to required and elective study and all students are required to take a subinternship in medicine, a month of emergency medicine and a month of ambulatory medicine. Within certain guidelines (for example, five of the eight elective periods must be spent in hospitals with a major Wayne State University affiliation), students can select from over 150 electives in 23 disciplines. In addition to the many programs offered by Wayne University, students can take advantage of approved elective programs offered by other institutions.

Students must pass Step 1 of the USMLE (United States Medical Licensing Examination) in order to be promoted from Year II to Year III. Students must also pass Step 2 (both clinical knowledge and clinical skills) examinations in order to graduate.

## Matriculation and Promotion

Primary evaluation of students is the responsibility of the faculty of the appropriate departments or courses for Year I-III students, and the Elective Course Coordinators for Year IV students.

Students are evaluated promptly by the primary evaluators, who make recommendations to the Promotions Committee which may include: promotion, re-examination, repetition of all or part of the year, interruption or suspension or probation of a student's program, or dismissal. Questions of suitability for the study and practice of medicine on other than academic grounds are handled according to the University's 'Guidelines for Assisting Persons with Behavioral Problems.'

The Promotions Committee is chaired by the Vice Dean for Medical Education or his/her designee and consists of twelve members: four nominated from the faculty by the President of the Faculty Senate, with the advice and consent of the Executive Committee; four nominated from the Council of Departmental Chairpersons; and four selected by and from the student body. Faculty members serve three-year terms. Student members serve for one year and have full discussion privileges. Their votes are advisory to the Committee.

At appropriate intervals, the Promotions Committee meets to make promotional decisions based upon the student's academic performance. For the course of making these decisions, the Committee has the obligation to assure that the rules of the School and the rights of the individuals involved have been fairly met. Decisions are transmitted for the Committee by the Associate Dean for Academic and Student Programs. Students have the right to appeal such decisions by direct petition to the Promotions Committee. In the event of such an appeal, the Committee may gather evidence and hear witnesses. The student involved has the right to be heard by the Committee and may call a reasonable number of witnesses to testify in his/her behalf. The Promotions Committee is the final decision-making body with regard to the promotion process. The student has the right to request the Office of the Provost to review any determinations made by the Promotions Committee of the School of Medicine relative to academic performance on his/her part.

*Leaves of Absence* may be granted to students with documented health problems (medical leave of absence), or to those with appropriate educational opportunities outside the School (educational leave of absence), for personal reasons (personal leave of absence); or the medical school can put students on an administrative leave of absence.

Any students whose enrollment is continued by the Promotions Committee, or, in the case of Leaves of Absence, by the Vice Dean for Medical Education or his/her designee, is considered to be making academic progress toward the M.D. degree.

## Scholarship

The grading system throughout all years of the School's curriculum is: 'H' (Honors), 'S' (Satisfactory), 'U' (Unsatisfactory), 'I' (Incomplete). The exception to this rule is Year 3 where an S+ (Satisfactory with commendations) can be achieved in all clerkships except the Continuity Clinic Clerkship. The minimum passing grade is 'S.' In order to be promoted from year to year, students must obtain 'S' on all course work and complete all requirements established by course directors.

## Requirements for Graduation

A student regularly registered in the School of Medicine may receive the degree Doctor of Medicine upon the fulfillment of the following requirements:

1. He/she must be at least 21 years of age, must exhibit good moral character, and must be suitable for the practice of medicine.
2. He/she must have satisfactorily completed all the academic requirements established by the School.
3. He/she must have paid all fees in full, and have all holds released.
4. He/she must pass Step 1 and pass Step 2 (clinical knowledge) of National Board examinations and sit for the Step 2 (clinical skills) examination

## M.D. Curriculum

YEAR 1 (MD1): Students must take eight required courses

- MD1 5000 -- Gross Anatomy: Cr. 12
- MD1 5100 -- Histology/Embryology: Cr. 6
- MD1 5200 -- Biochemistry: Cr. 6
- MD1 5300 -- Physiology: Cr. 6
- MD1 5400 -- Medical Genetics: Cr. 3
- MD1 5500 -- Clinical Nutrition: Cr. 3
- MD1 5600 -- Neuroscience: Cr. 8
- MD1 5700 -- Clinical Medicine I: Cr. 4
- MD1 5720 -- Translation Medicine: Cr. 2

YEAR 2 (MD2): Students must take six required courses

- MD2 6000 -- Immunology/Microbiology/Infectious Disease: Cr. 10
- MD2 6100 -- Pharmacology: Cr. 5
- MD2 6200 -- Psychiatry: Cr. 3
- MD2 6300 -- Pathobiology: Cr. 5
- MD2 6400 -- Pathophysiology: Cr. 18
- MD2 6500 -- Clinical Medicine II: Cr. 9

YEAR 3 (MD3): Students must take eight required courses and one elective or vacation month. Students not taking the elective in Year 3 must complete an additional elective in Year 4.

- MD3 7000 -- Continuity Clinical Clerkship: Cr. 3
- MD3 7100 -- Family Medicine Clerkship: Cr. 4
- MD3 7200 -- Internal Medicine Clerkship: Cr. 8
- MD3 7300 -- Pediatrics Clerkship: Cr. 8
- MD3 7400 -- Surgery Clerkship: Cr. 8
- MD3 7500 -- Psychiatry Clerkship: Cr. 4
- MD3 7600 -- Obstetrics and Gynecology Clerkship: Cr. 8
- MD3 7700 -- Neurology Clerkship: Cr. 4

YEAR 4 (MD4): Students must take three required courses, including one sub-internship, and five electives. If an elective month was not taken in Year 3, students must take an additional elective in Year 4.

*Required Sub-internship (choose 1 of 4 sub-internships below to fulfill the requirement):*

- MD4 8210 -- Family Medicine Subinternship: Cr. 7
- MD4 8470 -- Internal Medicine Subinternship: Cr. 7
- MD4 9210 -- Pediatrics Subinternship: Cr.7
- MD4 9490 -- Surgery Subinternship: Cr. 7

Required Courses:

- MD4 8160 -- Emergency Medicine Subinternship: Cr. 7
- MD4 8270 -- Ambulatory Medicine: Cr. 7

Required MD4 Electives: five courses to be chosen from MD4 courses not taken to satisfy any of the above requirements.

## Cooperative Electives Exchange Program

The Deans of the four Michigan medical schools, acting as the Michigan Medical Schools Liaison Committee, have signed cooperative agreements allowing students full credit for courses taken as elec-

tives at any one of the participating medical schools: Wayne State University, University of Michigan, Michigan State University and Michigan State University College of Osteopathic Medicine. The Deans intend the program 'to make the best use of one another's resources to the greater advantage of the student and the Michigan community. By allowing medical students full academic credit for elective courses taken at any one of our respective medical schools, our students will be able to share productively in the learning and training opportunities of the entire State.'

Under the course exchange program, election of an 'away course' at one of the cooperating schools requires approval of both the parent and host institutions. Enrollment, matriculation and fee payments continue without alteration at the parent institution; however, students are responsible for all travel and living expenses incurred during the 'away' elective. Additional information can be obtained from Records and Registration, School of Medicine. Under the course exchange program, election of an 'away course' at one of the cooperating schools requires approval of both the parent and host institutions. Enrollment, matriculation and fee payments continue without alteration at the parent institution; however, students are responsible for all travel and living expenses incurred during the 'away' elective. Additional information can be obtained from Records and Registration, School of Medicine.

## MEDICAL DOCTOR COURSES (MD1 - MD4)

The following courses, numbered 5000-9999, are offered for graduate credit only. For interpretation of numbering systems, signs and abbreviations, see page 652.

All courses listed below are categorized by year-level of instruction in the Doctor of Medicine program. All Year 1 courses have a code of MD1 and course numbers range from 5000-5999; Year 2 courses are coded MD2 and range from 6000-6999; Year 3 courses are coded MD3 and range from 7000-7999; and Year 4 courses are coded MD4 and range from 8000-9999. Students can only register for courses corresponding to the year of Doctor of Medicine program to which they have been officially promoted. Exceptions must be approved by the Medical School prior to registration, unless otherwise specified in the course descriptions (e.g., Year 3-4 electives).

### First Year Medical Doctor Courses (MD1)

#### **5000 Gross Anatomy. Cr. 12**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Normal structure and organization of the human body; lectures, small group presentations, radiologic anatomy sessions, and dissection of the human body. (Y)

#### **5100 Histology/Embryology. Cr. 6**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Normal appearance of human cells, tissues and organs; structure and functional role in the human body and their development in the human embryo and fetus. (Y)

#### **5200 Biochemistry. Cr. 6**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Principles of medically-related biochemistry; structure and function of proteins, energy metabolism, biochemical pathways, and gene expression. (Y)

#### **5300 Physiology. Cr. 6**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Normal function of the human body: cells, tissues, musculo-skeletal, hematopoietic, and other organ systems. (Y)

#### **5400 Medical Genetics. Cr. 3**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Basic genetic principles and tools of molecular

genetics; preparation for application of these concepts in clinical practice. (Y)

#### **5500 Clinical Nutrition. Cr. 3**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Concepts related to clinical nutrition, and their application; function of nutrients, how nutrients are used in the body, role of nutrients in disease. (Y)

#### **5600 Neuroscience. Cr. 8**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Anatomical, physiological, biochemical, and behavioral parameters of neuroscience: neuroembryology of nervous tissue and organization of major centers and nerve pathways in human central nervous system. (Y)

#### **5700 Clinical Medicine I. Cr. 4**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Knowledge, skills and attitudes needed for clinical practice of medicine: medical interviewing skills, doctor/patient communication skills, physical exam skills, role of professionalism in ethics and medicine. (Y)

#### **5710 Clinical Medicine I: Small Group. Cr. 0**

Coreq: MD1 5700. Open only to students in MD Program of School of Medicine. Clinical practice, including medical interviewing, doctor/patient communication, physical exam skills, role of professionalism in medicine. (Y)

#### **5720 Translational Medicine I. Cr. 2**

Open only to students in the Medical School MD program. Students learn the importance of the scientific method to determine causation in health and sickness and develop the necessary skills to translate current clinical research to patients. (Y)

#### **5800 Directed Study. Cr. 1-12**

Open only to students in Medical School MD Program. Offered for S and U grades only. Prereq: prior consent of Assistant Dean for Basic Science Education. Individualized curriculum designed to enhance knowledge and skills in preparation for the next phase of medical school. (Y)

### Second Year Medical Doctor Courses (MD2)

#### **6000 Immunology / Microbiology / Infectious Disease. Cr. 10**

Open only to students in Medical School MD Program. Offered for S, U and H grades only. Understanding host-parasite relationships, including workings of the innate and acquired immune protective systems. (Y)

#### **6100 Pharmacology. Cr. 5**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Understanding biochemical and molecular mechanisms of drug action with the anatomical distribution of drugs in the body and the physiological responses to drugs. (Y)

#### **6200 Psychiatry. Cr. 3**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Recognizing, assessing, and treating the common psychiatric disorders seen in adults and children in the general hospital setting. (Y)

#### **6300 Pathobiology. Cr. 5**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Introduction to mechanisms and cellular consequences of human disease. (Y)

#### **6400 Pathophysiology. Cr. 18**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Interdisciplinary course; pathophysiology of the organ systems, including respiratory, hematologic, cardiovascular,

renal, dermatology/connective tissue, endocrine, gastrointestinal, and neurologic systems. (Y)

**6520 Translational Medicine II, Cr. 2**

Open only to students in the Medical School MD Program. Students build upon the knowledge and skills learned from Year I Translational Medicine (MD1 5720), focusing on the scientific method to determine causation in health/sickness and skills to translate current clinical research to patients. (Y)

**6500 Clinical Medicine II, Cr. 9**

Open only to students in Medical School MD Program. Offered for S, U or H grades only. Knowledge, skills and attitudes needed for the clinical practice of medicine, learned through continued instruction in advanced physician-patient communication skills; additional competencies in physical examination and diagnosis. (Y)

**6510 Clinical Medicine II: Physical Diagnosis, Cr. 0**

Coreq: MD2 6500. Open only to students in medical School MD Program. Advanced physician-patient communication skills; additional competencies in physical examination and diagnosis. (Y)

**6600 Directed Study, Cr. 1-12**

Prereq: prior consent of Assistant Dean for Basic Science. Open only to students registered in the Medical School M.D. Program. Offered for S and U grades only. Students participate in an individualized curriculum designed to enhance their knowledge and skills in preparation for the next phase of medical school. (Y)

**6610 Independent Study: Step 1 Preparation, Cr. 0**

Open only to students in Medical School MD program. Prereq: completion of all Year 2 course work. Preparation for the Step 1 Board Examination. (Y)

### Third Year Medical Doctor Courses (MD3)

**7000 Continuity Clinical Clerkship, Cr. 3**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S and U grades only. Coreq: pediatric clerkship, family medicine clerkship with an elective or vacation month, and internal medicine clerkship. 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. (T)

**7100 Family Medicine Clerkship, Cr. 4**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must register for an elective month or vacation month along with the family medicine clerkship. The elective or vacation must be taken the month prior to, or the month immediately following the family medicine clerkship. Students must also take the pediatric, internal medicine, and continuity clinic clerkships to fulfill the remaining primary care block requirement. 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. (T)

**7200 Internal Medicine Clerkship, Cr. 8**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must take the pediatric clerkship, the family medicine clerkship with an elective or vacation month, as well as the continuity clinic clerkship to fulfill the remaining primary care block requirement. Practical experience in recognition, evaluation, diagnosis, and management of hospitalized adult patients with acute non-surgical illnesses. (T)

**7300 Pediatrics Clerkship, Cr. 8**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must take the internal medicine clerkship, the family medicine clerkship with an elective or vacation month, as well as the continuity

clinic clerkship to fulfill the remaining primary care block requirement. Practical experience in recognition, evaluation, diagnosis, and management of pediatric patients in in-patient and ambulatory care settings. (T)

**7400 Surgery Clerkship, Cr. 8**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must take the psychiatry, OB/GYN, and neurology clerkships to fulfill the remaining specialty block requirement. Practical experience in recognition, evaluation, diagnosis, and management of patients in general surgery or surgical sub-specialties. (T)

**7500 Psychiatry Clerkship, Cr. 4**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must take the surgery, OB/GYN, and neurology clerkships to fulfill the remaining specialty block requirement. Practical experience in recognizing, evaluating, diagnosing, and management of patients with behavioral and emotional brain disorders. (T)

**7600 Obstetrics and Gynecology Clerkship, Cr. 8**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must take the psychiatry, surgery, and neurology clerkships to fulfill the remaining specialty block requirement. Practical experience in recognizing, evaluating, diagnosing, and managing the health care of women in a variety of inpatient and outpatient settings. (T)

**7700 Neurology Clerkship, Cr. 4**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S, S+, U or H grades only. Coreq: student must take the psychiatry, OB/GYN, and surgery clerkships to fulfill the remaining specialty block requirement. Practical experience in recognition, evaluation, diagnosis, and management of patients with disorders of the nervous system. (T)

**7800 Directed Study, Cr. 1-12**

Open only to students in Medical School MD Program registering for Year 3 courses. Offered for S and U grades only. Prereq: prior consent of the Assistant Dean for Clinical Education. Individualized curriculum designed to enhance knowledge and skills in preparation for the next phase of medical school. (T)

**7810 Independent Study: Step 1 Extended Prep, Cr. 0**

Prereq: completion of all Year 2 course work; prior consent of academic and student programs. Open only to students in Medical School MD program. Students use curricular time for continued preparation for the Step 1 board exam. (Y)

**7815 Year 3 General Elective Month, Cr. 3**

Open only to students in MD Program. Prereq: completion of Year 2 course work; prior consent from academic and student programs. (Y)

**7900 Optional Vacation Month, Cr. 0**

Open only to students in Medical School MD Program registering for Year 3 courses. Coreq: student must register for a vacation month or elective month along with the family medicine clerkship. The vacation or elective chosen must be taken the month prior to, or the month immediately following the family medicine clerkship. If the vacation month is taken, student is required to take Year 3 elective in Year 4. (T)

### Fourth Year Medical Doctor Courses (MD4)

**8000 Fabric of Society, Cr. 6**

Offered for S, U or H grades only. Prereq: good academic standing; prior consent of faculty. Students who received cocurricular elective credit in Year 1-2 must register for this course in Year 4 to receive credit. Work with vulnerable populations and stigmatized patients

including the elderly, homeless, addicted, handicapped, pregnant teens and others. (T)

**8001 Supplemental Academic Development. Cr. 6**

Open only to students registering for Year 4 of medical school. Prereq: must meet academic requirement and have prior approval before registering. Offered for S, U or H grades only. To assist current and future students, participants will use their basic science and clinical experiences to develop a test bank of USMLE Step 1 questions. (T)

**8010 Humanities in Medicine. Cr. 6**

Offered for S, U or H grades only. Prereq: good academic standing; prior consent of faculty. Students who received cocurricular elective credit in Year 1-2 must register for this course in Year 4 to receive credit. Work with vulnerable populations and stigmatized patients including the elderly, homeless, addicted, handicapped, pregnant teens and others. (T)

**8020 Medical Education. Cr. 6**

Offered for S, U or H grades only. Prereq: good academic standing; prior consent of faculty. Students who received cocurricular elective credit in Year 1-2 must register for this course in Year 4 to receive credit. Processes involved in evaluation of courses; coordination of the assessment of Year 1-2 courses. (T)

**8030 Medicine and Political Action. Cr. 6**

Offered for S, U or H grades only. Prereq: good academic standing; prior consent of faculty. Students who received cocurricular elective credit in Year 1-2 must register for this course in Year 4 to receive credit. Observation and participation in medical areas that are politically in the forefront of medicine today. (T)

**8040 Special Topics in Anatomy and Cell Biology. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Review of research training in gross anatomy, cell biology, histology, embryology, or neuroscience. (T)

**8041 Gross Anatomy Teaching Lab. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Prereq: Must have participated in the summer pro-sector program and have approval from the course director before registering. 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. (T)

**8050 General Anesthesiology. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Practice of anesthesia including preoperative assessment, delivery of general and regional anesthesia, equipment use, and monitoring techniques. (T)

**8060 Pain Management. Cr. 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Diagnosis, treatment and management of acute and chronic pain syndromes related to malignant and non-malignant diseases. (T)

**8070 Pediatric Anesthesiology. Cr. 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Prereq: must have passed general anesthesia Year 4 elective. Preoperative assessment, delivery of general and regional anesthesia, equipment use, and monitoring techniques in pediatric patients. (T)

**8100 Law and Medicine. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Legal issues associated with practicing clinical medicine. (T)

**8120 General Dermatology. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Fundamentals of diagnosing, treating and managing patients with common dermatologic disorders. (T)

**8130 Dermatology Research. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Knowledge and experience in dermatology research. (T)

**8140 General Emergency Medicine. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Initial evaluation, stabilization, and management of patients in the emergency department. (T)

**8150 Emergency Medicine Research. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Process and participation in emergency medicine research. (T)

**8160 Emergency Medicine Subinternship. Cr. 7**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Required of all Year 4 medical students. Evaluation, stabilization, and treatment of a variety of patients presenting to the ER with urgent and emergent illness and trauma. (T)

**8163 Emergency Medicine Critical Care. Cr. 6**

Open only to fourth year medical school students. (T)

**8165 Advanced Emergency Medicine. Cr. 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Prereq: MD4 8160. Being the primary provider for patients while in the ER, from initial evaluation to completion of disposition. (T)

**8170 General Family Medicine. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Enhancement of knowledge and skills in conducting a history/physical, diagnosing/managing patients, and participation in common office procedures in the outpatient setting. (T)

**8171 Rural Family Medicine. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. 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. (T)

**8172 Family Medicine Student Run Free Clinic. Cr. 6**

Open only to students in M.D. program registering for Year 4 courses. Prereq: member of WSU Student Run Free Clinic organization; prior consent before registering. Students are involved in supervision of day-to-day operations of Student Run Free Clinic. (T)

**8180 Clinical Aspects of Occupational Medicine. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Health risks of different occupational settings; basic skills to diagnose and manage select occupational illnesses and injuries. (T)

**8210 Family Medicine Subinternship. Cr. 7**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Students must choose one subinternship in: family medicine, surgery, pediatrics, or internal medicine. Students expand on Year 3 family medicine clerkship experience with more intensive involvement in select patient populations. (T)

**8220 Hospice/Palliative Medicine. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Care of terminally ill patients; basic communication and interactive skills associated with these patients and their families. (T)

**8230 Maternal and Child Health. Cr. 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Prereq: MD3 7600. Gaining experience in an aggressive family medicine OB service. (T)

**8240 Research in Family Medicine. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Research process; participation in family medicine research. (T)

**8250 Sports Medicine. Cr. 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Knowledge and skills to assess the fitness and health risks of athletes. (T)

**8260 Allergy and Clinical Immunology. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Conducting an allergic H & P; understanding basic mechanisms, pathophysiology and testing of allergic and immunologic disorders. (T)

**8261 Advanced Physical Diagnosis. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Prereq: Must have taken the Internal Medicine clerkship. 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. (T)

**8262 Ambulatory Subspecialty in Internal Medicine. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Prereq: Must have taken the Internal Medicine clerkship. 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. (T)

**8263 Clinical Skills and Competency. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Students will be provided with a variety of experiences to prepare them for their role as residents and physicians. (T)

**8264 Independent Study in Medical Education. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Students will improve their skills as learners and critical thinkers, and gain an appreciation of the importance of lifelong learning. (T)

**8265 Urban Medicine for Visiting Students. Cr. 6**

Open only to students visiting Wayne State University School of Medicine from another university. Prereq: must have taken their primary clerkship in internal medicine. Students will learn academic internal medicine in an urban setting with an emphasis on recognizing, studying, treating, and preventing disparities in healthcare. (T)

**8270 Ambulatory Medicine. Cr. 7**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Required of all Year 4 medical students. Expanding on Year 3 clerkship experience; more intensive involvement in select primary care ambulatory settings. (T)

**8280 Cardiology. Cr. 3-6**

Offered for S, U or H grades only. Open only to students registering for Year 3 or 4 of medical school. Basic history/physical, diagnostic, treatment and management skills associated with common inpatient cardiac problems. (T)

**8281 Interventional Cardiology. Cr. 6**

Offered for S, U or H grades only. Open only to students registering for Year 4 of medical school. Prereq: MD4 8280. Exposure to an interventional lab. Gaining familiarity with the clinical utility of routine cardiovascular interventions and hemodynamic measurements. (T)

**8290 Cardiology Consultation. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Skills needed to consult with medical and surgical patients with cardiac problems. (T)

**8310 Coronary Care Unit. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Diagnosis and treatment of common cardiac problems; care for critically ill patients admitted to cardiac care unit. (T)

**8320 Critical Care Medicine. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Management of critically ill patients to improve diagnostic, problem solving, assessment, and treatment skills. (T)

**8340 Endocrine/Bone and Mineral Metabolism. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnosing, treating, and managing patients with metabolic bone diseases. (T)

**8350 Endocrinology Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in research associated with medical endocrinology. (T)

**8360 Endocrine/Metabolism. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Techniques of conducting a history and physical; diagnostic, therapeutic, and laboratory approaches to endocrine disorders. (T)

**8370 Gastroenterology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Conducting a history and physical exam, and diagnosing, treating, and managing patients with common gastrointestinal diseases. (T)

**8380 Gastroenterology Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in specific gastroenterology research. (T)

**8390 General Internal Medicine Inpatient. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Common problems encountered in an internal medicine inpatient clinical setting. (T)

**8391 Internal Medicine: Miscellaneous. Cr. 3 or 6**

Open only to third and fourth year medical school students. Prereq: away form must be filled out by student and WSU chairperson must sign it before it is mailed by Office of Student Affairs; student must confirm Records and Registration has received approval from school to ensure that credit is awarded for the elective. Students learn various topics and issues in general internal medicine. (T)

**8392 Metabolic Nutrition and Weight Management. Cr. 3 or 6**

Offered for S, U or H grades only. Open only to third- or fourth-year medical students. (T)

**8400 Clinical Genetics. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Interviewing, conducting a physical examination, and other patient interactions in patients with suspected or known genetic diseases. (T)

**8410 Genetics: Reproductive. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Interviewing, conducting a physical examination, and other patient interactions in patients with suspected or known reproductive genetic diseases. (T)

**8420 Geriatric Medicine. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Conduct of a comprehensive assessment and treatment of a geriatric patient; factors affecting the health of the elderly. (T)

**8430 Hematology. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Familiarization with a variety of hematologic and oncologic disorders; how to diagnose, treat, and manage patients with these disorders. (T)

**8440 HIV/AIDS. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Basic knowledge and skills associated with care of HIV-infected persons in outpatient and inpatient settings. (T)

**8450 Infectious Disease. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluating, diagnosing and treating patients with acute and chronic infectious diseases. (T)

**8460 Infectious Disease Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in specific infectious disease research. (T)

**8470 Internal Medicine Subinternship. Cr. 7**

Open only to students registering for Year 4 of medical school. Required course. Students must choose one subinternship in: internal medicine, surgery, pediatrics, or family medicine. Offered for S, U or H grades only. Expanding on Year 3 internal medicine clerkship experience; more intensive involvement in select patient populations. (T)

**8480 Medicine/Pediatrics. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Aspects of the day-to-day practice of a physician specializing in an internal medicine/pediatric practice. (T)

**8490 Nephrology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Prereq: passing of Year 3 internal medicine clerkship. Offered for S, U or H grades only. Experience in diagnosing and managing patients with acute and chronic nephrologic problems. (T)

**8500 Nephrology Consultation Service. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Evaluation, diagnosis, and treatment of patients with renal problems. (T)

**8510 Oncology: Medical Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Evaluation, diagnosis, treatment and management of patients with oncologic conditions. (T)

**8520 Oncology: Outpatient Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Cancer patients in the outpatient setting: initial evaluations, types of malignant diseases, role of staging, conducting a focused follow-up of cancer patients. (T)

**8530 Oncology Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in research involving patients with cancer. (T)

**8540 Otolaryngology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. History and basic head and neck examination on patients with otolaryngologic disease. (T)

**8550 Otolaryngology Medical and Surgical: Head and Neck. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Prereq: passing of Year 3 internal medicine and surgery clerkships. Offered for S, U or H grades only. Additional training in otolaryngology head and neck surgery. (T)

**8560 Otolaryngology Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in otolaryngology research. (T)

**8570 Palliative Medicine. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Understanding of and skills in palliative medicine: communication, cultural issues, psycho-emotional and spiritual aspects of end of life care and death and dying. (T)

**8575 Complementary Medicine. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The world of complementary medicine: what it is, how it is different from conventional medicine, how it is practiced, and what its benefits are. (T)

**8580 Primary Care Medicine. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Common problems encountered in internal medicine outpatient clinical setting. (T)

**8590 Pulmonary Medicine. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnosis and management of a variety of pulmonary disorders; diagnosis of acute and chronic respiratory failure; interpretation of pulmonary tests. (T)

**8600 Pulmonary and Sleep Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in pulmonary and sleep research. (T)

**8610 Pulmonary Consultation. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Diagnosis and management of a variety of pulmonary disorders; diagnosis of acute and chronic respiratory failure; interpretation of pulmonary tests. (T)

**8620 Rheumatology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnosis and management of common rheumatologic problems; understanding ancillary procedures and lab tests. (T)

**8630 Sleep Disorders. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Interviewing, physical examination, diagnosis, and therapy of patients with sleep disorders. (T)

**8640 Molecular Medicine. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. State-of-the-art molecular biological research and methods, relating to basic and applied research of human disease. (T)

**8650 General Neurology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation, diagnosis, treatment and management of patients with an array of general neurologic conditions. (T)

**8660 Behavioral Neurology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Pathogenesis, genetics, neuro-

chemistry, imaging, diagnostic testing, presentation and treatment of Alzheimer's and other forms of dementia. (T)

**8670 Clinical Neurology of AIDS. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Common neurologic manifestations of AIDS and their evaluation and management. (T)

**8680 Neurology Consultation. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Participation with neurology physicians in consultation for patients in the ER and other inpatient services. (T)

**8690 Movement Disorders. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Evaluation, diagnosis, treatment and management of patients with neurologic movement disorders. (T)

**8700 Neurology - Oncology. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Diagnosis, treatment and management of patients with malignancies of the neurologic system. (T)

**8710 Neurologic Sleep Disorders. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Operations of a sleep lab and evaluation of patients with sleep disorders. (T)

**8720 Neurology Research. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. The research process; participation in neurology research. (T)

**8730 Pediatric Neurology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnosis, treatment, and management of a variety of neurologic disorders of infancy and childhood. (T)

**8740 Protective Mechanisms in the Nervous System. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Basic mechanisms of nerve cell survival/injury; understanding the role of growth factors in the central nervous system. (T)

**8750 General Neurosurgery. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Preoperative, intraoperative, and post-operative care of neurologic patients. (T)

**8760 Neurosurgery Research. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Basic research principles as they apply to clinical questions in neurosurgery. (T)

**8780 General Gynecology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Signs, symptoms, and management of both surgical and nonsurgical gynecologic disease. (T)

**8781 Family Planning and Abortion. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Students will learn the principles and counseling techniques for contraceptive management and abortion. (T)

**8790 Gynecologic Oncology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation and treatment of patients presenting with a range of gynecologic malignancies. (T)

**8800 Obstetrics. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Signs, symptoms and management of normal/abnormal labor, and experience patients with intrapartum high risk conditions and intrapartum/postpartum complications. (T)

**8810 Obstetrics/Gynecology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Care of inpatient and outpatient obstetric and gynecologic patients, and participation in obstetric and gynecological procedures. (T)

**8820 Obstetrical Ultrasound. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Basic knowledge and skills in obstetrical ultrasound. (T)

**8830 Maternal Fetal Medicine. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Experience patients with common medical and obstetrical complications; development of skills in fetal assessment and evaluation of high risk pregnancies. (T)

**8840 Molecular Basis of Development and Disease. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Current molecular/cellular biological methods used to answer questions of growth and development in normal and pathological states. (T)

**8850 Nurse Midwifery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Ambulatory women's health care delivery as performed by a certified nurse midwife, including management of labor and delivery. (T)

**8860 Reproductive Endocrine and Infertility. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Prereq: passing Year 3 OB/GYN clerkship. Offered for S, U or H grades only. Diagnosis and treatment of couples with infertility and reproductive endocrine disorders. (T)

**8870 Reproductive Genetics. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnostic, therapeutic and counseling procedures associated with reproductive genetics, fetal diagnosis, and fetal therapy. (T)

**8880 Urogynecology. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Evaluation, treatment and management of patients with urogynecology disorders. (T)

**8890 Ophthalmology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Conducting basic eye examinations; evaluation methods, management and treatment of eye diseases. (T)

**8900 Ophthalmic Research. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Coreq: must take course for two months; election for one month requires prior consent. Offered for S, U or H grades only. The research process; participation in ophthalmic research. (T)

**8910 General Orthopedic Surgery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Conduct of an H & P, diagnosis and treatment of patients with orthopedic problems; participation in pre-operative, operative, and post-operative care. (T)



**8911 Orthopedic Surgery Sports Medicine. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. 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. (T)

**8912 Orthopedic Hand Surgery. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. 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. (T)

**8913 Orthopedic Foot/Ankle Surgery. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. 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. (T)

**8914 Orthopaedic Surgery Research. Cr. 3 or 6**

Open only to third or fourth year medical students. Students participate in current orthopaedic surgery and biomechanics research. (T)

**8930 Orthopedic Traumatology. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Basic surgical principles and pathophysiology, diagnosis, and management of a variety of traumatic orthopedic conditions. (T)

**8940 General Pathology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Functions of a clinical laboratory, including interpretation of surgical pathology. (T)

**8950 Anatomic Pathology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Basic pathologic processes; how gross, microscopic and other techniques are applied to the diagnosis and treatment of disease. (T)

**8960 Clinical Chemistry/Toxicology. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Interpretation of data obtained from clinical chemistry laboratory. (T)

**8970 Forensic Pathology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Basic mechanisms of injury; characteristic features of injury patterns; relationship between medicine and law. (T)

**8980 Tumor Genetics. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Role of cytogenetics and molecular cytogenetics in diagnosis, management and prognosis of a patient's disease. (T)

**8990 General Pediatrics. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluating and managing children with common pediatric problems; aspects of normal growth and development. (T)

**8991 Child Abuse Identification and Treatment. Cr. 6**

Open only to students registering for Year 4 of medical school. Pre-req: must have completed the third year Pediatric clerkship. Offered for S, U or H grades only. Students will learn the techniques to identify and report suspected child abuse and neglect, as well as methods of treatment and prevention. (T)

**8992 Pediatric Pulmonary. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Students will learn the evaluation and treatment of pediatric patients with acute and chronic respiratory diseases. (T)

**9000 Adolescent Pediatrics. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Interviewing and physical examination on adolescent patients; normal physical, cognitive and psychosocial development of adolescent patients. (T)

**9010 Allergy, Immunology, and Rheumatology. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Day-to-day care of pediatric patients with common allergic, immunologic and rheumatologic disease. (T)

**9020 Clinical Genetics. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation of known and suspected genetic disorders in a variety of adult and pediatric patients. (T)

**9030 Complementary/Alternative Medicine. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Role of complementary/alternative medicine; diagnosis, treatment and management of patients using these methods. (T)

**9040 Developmental Behavioral Pediatrics. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Distinguishing normal from abnormal development; approaches to assessment of disorders of learning and development. (T)

**9050 Genetic and Metabolic Disorders. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Abnormal morphology of children; diagnostic skills in various inborn errors. (T)

**9060 Medical Toxicology and Poison Control. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Assessment and management of pediatric patients with suspected or known poisoning or toxic exposure. (T)

**9070 Neonatology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation of healthy newborns; common newborn conditions; care of high risk infants and their mothers. (T)

**9080 Pediatric Cardiology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Skills in taking and performing a cardiac exam; normal hemodynamics; natural history of children with congenital and acquired heart disease. (T)

**9090 Pediatric Ear, Nose and Throat. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Entire scope of pediatric otolaryngology. (T)

**9100 Pediatric Emergency Medicine. Cr. 3 or 6**

Open only to students who have completed Year 3 pediatrics clerkship. Offered for S, U or H grades only. Observation and participation in care of children presenting with a wide range of conditions in pediatric emergency medicine. (T)

**9110 Pediatric Endocrinology and Diabetes. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation of normal physical

growth and development; recognition of common pediatric endocrine problems. (T)

**9120 Pediatric Gastroenterology, Hepatology, and Nutrition. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Performance of a history and physical exam, development of a diagnosis, and caring for patients with disorders of the gastrointestinal tract. (T)

**9130 Pediatric Hematology/Oncology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Prereq: passing of Year 3 pediatric clerkship. Offered for S, U or H grades only. Basic skills to conduct an H & P and diagnose and treat children with hematologic and oncologic problems. (T)

**9140 Pediatric Infectious Disease. Cr. 6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation, diagnosis, treatment, and management of common pediatric infections. (T)

**9150 Pediatric Intensive Care. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Basic diagnostic and therapeutic approach to care of critically ill children. (T)

**9160 Pediatric Nephrology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Basic skills to examine, diagnose and treat patients with common renal diseases. (T)

**9170 Pediatric Neurology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Performance of a complete neurological history, examination, and ordering of appropriate laboratory tests to diagnose and manage pediatric patients with neurologic disease. (T)

**9180 Pediatric Pathology: Autopsy and Surgical. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Correlation of clinical, anatomical and laboratory findings in diagnosing pediatric disease. (T)

**9190 Pediatric Plastic Surgery/Craniofacial. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Recognition and development of a treatment plan for congenital craniofacial anomalies and vascular lesions. (T)

**9200 Pediatric PMR. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Childhood functional impairments including head injury, spinal cord injury, cerebral palsy, neuromuscular diseases, sports medicine, and electromyography. (T)

**9210 Pediatric Subinternship. Cr. 7**

Open only to students registering for Year 3 or 4 of medical school. Required course. Student must choose one subinternship in internal medicine, surgery, pediatrics, or family medicine. Offered for S, U or H grades only. Senior students expand upon Year 3 pediatric clerkship experience with more intensive involvement in select patient populations. (T)

**9220 Pediatric Rehabilitation. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Performance of an H & P; development of greater understanding of diagnosis, management and treatment of pediatric patients with neuromuscular and musculoskeletal problems. (T)

**9230 Physical Medicine and Rehabilitation. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Performance of an H & P; develop-

ment of greater understanding of diagnosis, management and treatment of patients with neuromuscular and musculoskeletal problems. (T)

**9240 Spinal Cord Injury Rehabilitation. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Management of patients with spinal cord injuries; role of rehabilitation team approach to spinal cord injuries. (T)

**9250 Traumatic Brain Injury Rehabilitation. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Management of patients with traumatic brain injuries; role of a rehabilitation team in management of patients with traumatic brain injuries. (T)

**9260 Brain Imaging of Childhood Onset of Neuropsychiatric Disorders. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Prereq: student must meet with Year 3 Clerkship Coordinator prior to registration. Offered for S, U or H grades only. Brain imaging techniques; neurodevelopmental approaches. (T)

**9261 Emergent and Consult Liaison Psychiatry. Cr. 6**

Open only to students registering for Year 4 of medical school and considering a career in psychiatry. Prereq: must have completed the third year Psychiatry clerkship. Offered for S, U or H grades only. 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. (T)

**9262 Emergency Psychiatry. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Students will learn to evaluate, diagnose, and treat psychiatric patients in an emergency setting. (T)

**9263 Clinical Electro-Physiology Research. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Students will participate in the academic research process, as well as learn the strengths and weakness of the different electrophysiological testing modalities. (T)

**9264 Psychiatry Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Students will participate in research projects and learn the clinical components associated with neuropsychiatric research. (T)

**9265 Outpatient Psychiatry. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. The student will observe routine outpatient practice and have an opportunity to evaluate new outpatients under the supervision of residents/staff. (T)

**9266 Psychiatry Sleep Medicine. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Students will learn to evaluate and treat various sleep disorders, including apnea, breathing disorders, insomnias, narcolepsy, and others. (T)

**9270 Child and Adolescent Psychiatry. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Experience of a variety of children and adolescents with psychiatric disorders; evaluation of patients and provision of care. (T)

**9290 Psychiatric Consultation. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Knowledge and skills associated with the psychiatric interview; mental status examination; development of knowledge base in behavioral medicine and treatment of psychiatric illness. (T)

**9300 Psychiatry: Geriatrics. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Knowledge and skills associated with the psychiatric interview; mental status examination; interpretation of data, diagnosis, psychopharmacology and psychotherapy in geriatric patients. (T)

**9310 Psychotherapy Elective. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Prereq: student must meet with Year 3 Clerkship Coordinator prior to registration. Offered for S, U or H grades only. Psychodynamic, cognitive, and group therapies; observation and participation in psychotherapeutic encounters. (T)

**9320 Research and Practice in Addiction Psychiatry. Cr. 6**

Open only to students registering for Year 4 of medical school. Prereq: student must meet with Year 3 Clerkship Coordinator prior to registration. Offered for S, U or H grades only. Diagnosis and management of individuals with addictive disorders; psychotherapeutic and pharmacotherapeutic interventions for problems with psychotropic substances. (T)

**9330 Research Topics in Membrane Physiology. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Several methodologies of current membrane physiology research. (T)

**9340 Addiction: Medical and Psychological. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Inpatient and outpatient treatment of substance use disorders. (T)

**9350 General Diagnostic Radiology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Basic techniques of imaging; skills to diagnose and interpret radiographic studies. (T)

**9360 Intervention Radiology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Role of interventional radiologic techniques in diagnosis and management of disease. (T)

**9370 Nuclear Medicine. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Performing and interpreting clinical nuclear medicine procedures; role of nuclear medicine in clinical practice. (T)

**9380 Radiation Oncology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Role of radiation therapy in variety of adult and pediatric malignancies. (T)

**9390 General Surgery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Experience in a variety of elective and acute surgical cases; diagnostic skills; basic surgical techniques and procedures. (T)

**9391 Surgical Oncology. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Students will gain an understanding of the evaluation and surgical management of patients presenting with a variety of malignancies. (T)

**9392 Advanced Surgical Skills. Cr. 6**

Open only to students registering for Year 4 of medical school and must be planning a surgery residency. Offered for S, U or H grades only. Students will learn advanced surgical skills in preparation for their surgery residency program. (T)

**9393 Breast Surgery. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Students will gain exposure to the diagnosis and treatment of breast diseases at the Walt Comprehensive Breast Center. (T)

**9400 Acute Burn Care. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Physiologic principles and clinical management of burn victims. (T)

**9410 Cardiovascular Surgery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnosis and treatment of cardiology diseases using invasive surgical approaches. (T)

**9420 Gastrointestinal Flexible Endoscopy. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Pathophysiology of common gastrointestinal disease; diagnostic and therapeutic use of flexible gastrointestinal endoscopy. (T)

**9430 Gastrointestinal Surgery. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Pathophysiology and management of gastrointestinal surgical diseases. (T)

**9440 Pediatric Surgery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Diagnosis and care of surgical disorders in children. (T)

**9450 Surgery Research. Cr. 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. The research process; participation in surgical research. (T)

**9460 Surgical Physiology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Role of the physician in applying the basic sciences in diagnosing and managing patients with a variety of surgical problems. (T)

**9470 Plastic and Reconstructive Surgery. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Evaluation, formulation of treatment plan, management of postoperative care, and participation in surgical procedures for patients requiring plastic surgery. (T)

**9480 Surgical Intensive Care Unit. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Care of critically ill surgical patients; common surgical intensive care unit procedures. (T)

**9490 Surgery Subinternship. Cr. 7**

Open only to students registering for Year 4 of medical school. Students must choose one subinternship in surgery, family medicine, pediatrics, or internal medicine. Offered for S, U or H grades only. Senior students expand upon their Year 3 surgery clerkship experience with more intensive involvement in select patient populations. (T)

**9500 Transplant Surgery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Prereq: passing Year 3 internal medicine and surgery clerkships. Offered for S, U or H grades only. Basic surgical principles and pathophysiology, diagnosis and management of a variety of transplant surgical conditions. (T)

**9510 Trauma and Emergency Surgery. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Evaluation, diagnosis, treatment,

and management of critically ill patients; basic procedures in the care of this population. (T)

**9520 Vascular Surgery. Cr. 3 or 6**

Open only to students registering for Year 4 of medical school. Offered for S, U or H grades only. Pathophysiology, evaluation, diagnosis, and management of patients needing vascular surgery; participation of procedures for this population. (T)

**9525 Colorectal Surgery. Cr. 3 or 6**

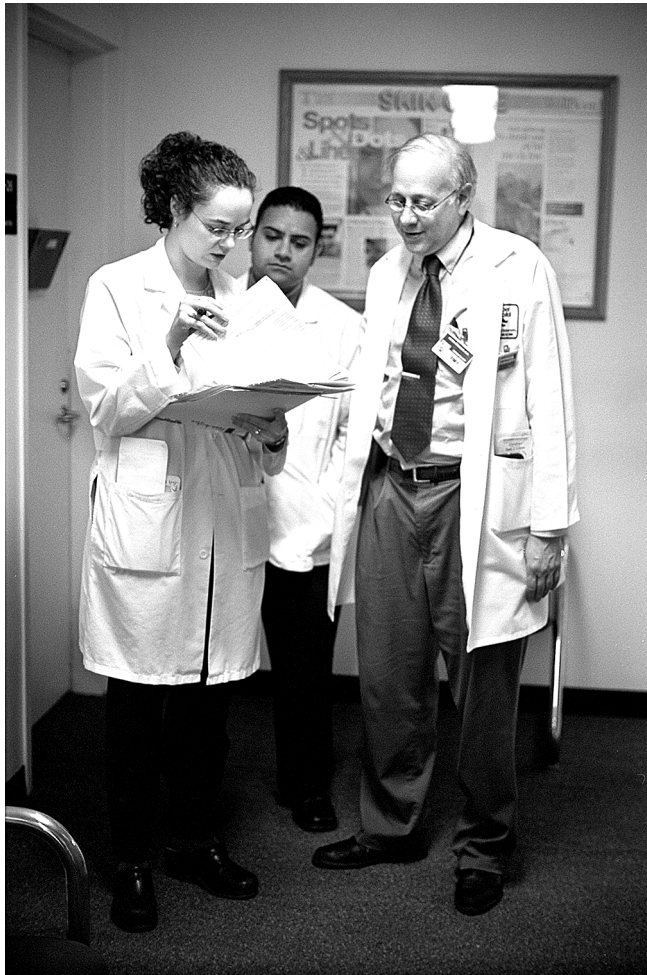
Open only to third and fourth year medical school students. (T)

**9530 General Urology. Cr. 3-6**

Open only to students registering for Year 3 or 4 of medical school. Offered for S, U or H grades only. Pathophysiology, evaluation, diagnosis and management of patients with urologic disease; participation in urologic surgery. (T)

**9999 Year 3 Additional Course Work. Cr. 0**

Open only to fourth year medical students with outstanding Year 3 course work; must have prior approval through Records and Registration. Students complete Year 3 course work prior to starting Year 4 course work. (T)



# Continuing Medical Education

*Assistant Dean:* David R. Pieper, Ph.D.

The Division of Continuing Medical Education (CME) was established to provide medical education activities to physicians who have completed their training, as well as support in graduate medical education programs. The CME Division is concerned with addressing the continuing medical education needs of physicians residing in the tri-county area of metropolitan Detroit, as well as the needs of the other physicians in the state.

Various special conferences, symposia and workshops, lasting one to five days, are offered under the academic sponsorship of the departments in the Medical School. Physicians from Michigan and many other states and countries attend meetings which reflect new discoveries and changes in needs and interests in medicine. Every effort is made to assist physicians in their continuing efforts to increase their competence and to improve their skills on behalf of the patients they serve.

In addition to these special programs, 'continuing' activities of one- to two-hour duration are scheduled at regular intervals during the year. Physicians are encouraged to participate in the departmental workshops, teaching rounds and grand rounds that meet their interests or needs; they are conducted in the clinical settings of Wayne State University and the Detroit Medical Center.

There are increasing pressures on practicing physicians to maintain and update their professional competence and skills. Wayne State University School of Medicine is striving to respond to these needs through continuing medical education. Inquiries may be directed to the Division for information about programs on specific subjects or programs for specific medical specialties.

## Accreditation

Wayne State University School of Medicine is accredited by the Accreditation Council of Continuing Medical Education (ACCME) to sponsor continuing medical education (CME) for physicians. As an accredited sponsor of CME, the School designates certain of its continuing medical education offerings as meeting the criteria for Category 1 of the Physician's Recognition Award of the American Medical Association, and for the requirements for license renewal by the Michigan Medical Practice Board. Other certifications from various medical specialty societies and boards are secured for individual offerings as may be required.

## Graduate Medical Education Program

*Associate Dean:* Mark Juzych, M.D.

*Corp. Director Administrative Services:* Debi Kellogg

Graduate Medical Education (GME) at Wayne State University (WSU) is an essential element of a diverse and rich academic environment encompassing many specialties and subspecialties in the practice of medicine. The residency programs directly impact the lives of thousands through patient care, but most importantly through the educational mission that reaches beyond hospitals to the community. Graduate Medical Education at WSU produces exceptional physicians who are committed to provide outstanding care to the communities we serve including not only the city of Detroit and the surrounding metropolitan area, but the state of Michigan and beyond.

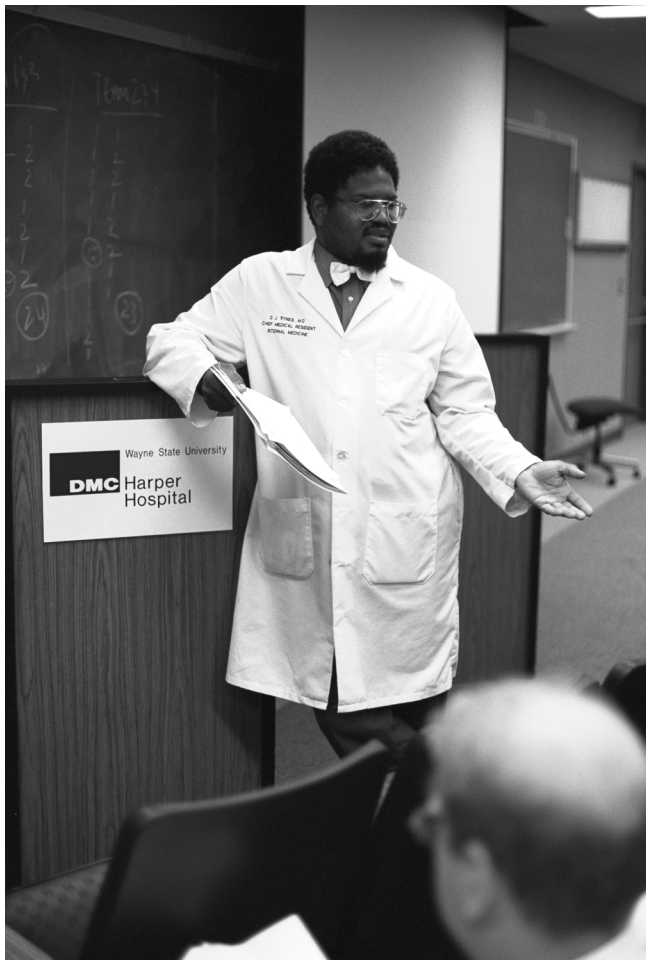
Wayne State University trains physicians who are continuing their education beyond the M.D. or D.O. degree in cooperation with seven Detroit Medical Center hospitals (Children's Hospital of Michigan, Detroit Receiving Hospital and University Health Center, Harper University Hospital, Huron Valley Sinai Hospital, Hutzel Women's Hospital, Sinai-Grace Hospital, and the Rehabilitation Institute of

Michigan), the Veterans Administration Medical Center in Detroit, Oakwood Healthcare System, Crittenton Hospital Medical Center, and Karmanos Cancer Hospital. Training utilizes the impressive clinical resources of these affiliates' hospitals and clinics for training of approximately 930 physicians in twenty-one specialty areas of medicine.

Residency positions are available in the following specialties: anesthesiology, dermatology, emergency medicine, family medicine, internal medicine, medicine-pediatrics, neurology, neurosurgery, obstetrics-gynecology, ophthalmology, orthopaedic surgery, otolaryngology, pathology, pediatrics, physical medicine and rehabilitation, plastic surgery, psychiatry, radiation oncology, radiology, surgery, urology and transitional year. Fellowships in numerous subspecialties are also available.

All participants in the programs are involved in a system of graduate teaching responsibilities within the realm of clinical diagnosis and patient care, including contribution to the teaching of medical students who rotate through the clinical department. Orientation programs, teaching conferences and seminars, bedside teaching, and a wide variety of supervised surgical and technical training are a systematic part of the graduate medical education of the physicians in the various specialty programs.

Enrollees in the programs must have an M.D. degree or equivalent, temporary or permanent licensure to practice medicine in Michigan, and approval of the appropriate program director. Appointments on an annual basis to appropriate levels within the Graduate Medical Education Program establish the basis for a stipend which is paid to the physician as a means of personal support while enrolled in training.



# Graduate Programs

## Academic Regulations Governing Master's and Doctoral Degrees

*Associate Dean for Graduate Programs:*

Robert J. Pauley, Ph.D.

Advanced study programs leading to the Doctor of Philosophy and Master of Science degrees are available in the School of Medicine. The primary purpose is to provide an opportunity for graduate training in preparation for careers in the medical and health-related science research, and the biotechnology industry.

The graduate student enters a community of scholars and is expected to become acquainted with the development of a main area of study and its relationship to other pursuits. Students are expected to become independent and self-directed, to acquire useful perspectives on the meaning and limitations of exact science, and to maintain a balance between practical and abstract intellectual activity. They are expected to draw from and add to the wealth of accumulated knowledge in their chosen discipline. Graduate students work closely with faculty advisors who help plan course schedules and research programs and supervise laboratory training.

### Admission

Admission to these graduate programs is contingent upon admission to the Graduate School; for requirements, see page 18. Requests for program information and application materials should be made directly to the program of interest. Mailing address and individuals to contact are cited below.

**Application:** Applicants must submit: (i) University Graduate School application; (ii) official transcripts of all undergraduate (and applicable graduate) academic work; (iii) Graduate Record Examination scores, verbal, quantitative and analytical writing components. Individual programs may have additional application requirements.

Most study programs are planned for students who begin in the fall semester; however, matriculation may be possible at other times during the year in individual cases.

Students for whom English is not their native language will be required to submit TOEFL examination scores and to demonstrate competency, both verbal and written, in English within the first year of study.

The recommended procedure for application is:

1. Contact the Graduate Officer of the department for information and forms;
2. Submit ALL application materials by February 1 for admission to begin study in the fall semester;
3. Earlier applications will be accepted in most cases. Late applications will be evaluated; however, the graduate programs have limited enrollment, and thus late applicants may encounter programs already filled. Most financial aid competition is promulgated in the months of February and March; late applicants may have very limited opportunities for financial assistance.

**Graduate Officers:** The following Graduate Officers associated with the programs as listed may be contacted through the School of Medicine, Wayne State University, 540 E. Canfield Avenue, Detroit, Michigan 48201 (telephone: 313-577-1455; Fax: 313-577-8796), or at our Web site: <http://www.med.wayne.edu/gradprog/>:

Anatomy and Cell Biology Ph.D., M.S.: Paul Walker, Ph.D.  
Basic Medical Sciences M.S.: Robert Pauley, Ph.D.  
Biochemistry and Molecular Biology, Ph.D., M.S.:  
Marilynn Doscher, Ph.D.

Cancer Biology Ph.D., M.S.: Larry Matherly, Ph.D.  
Genetic Counseling M.S.: Angela Trepanier, M.S.  
Immunology/Microbiology Ph.D., M.S.: Thomas Holland, Ph.D.  
Medical Physics Ph.D.: Jay Burmeister, Ph.D.  
Medical Research M.S.: Robert Pauley, Ph.D.  
Molecular Biology and Genetics Ph.D., M.S.:  
Gregory Kapatos, Ph.D.  
Pathology Ph.D.: Todd Leff, Ph.D.  
Pharmacology Ph.D., M.S.: roy McCauley, Ph.D.  
Physiology Ph.D., M.S.: Douglas Yngst, Ph.D.  
Master of Public Health: David Bassett, Ph.D.  
Psychiatry & Behavioral Neurosciences M.S.: Richard Balon, Ph.D.  
Radiological Physics M.S.: Jay Burmeister, Ph.D.  
Translational Neuroscience Ph.D.: Jeffrey Stanley, Ph.D.

## Graduate Fees

Students in the graduate programs offered by the School of Medicine pay the regular graduate fees of the University; see page 21.

## Master of Science

Descriptions of individual programs may be found in the departmental sections which follow. Two interdisciplinary programs are offered in addition to the discipline-based courses of study: a master's degree program in basic medical sciences and a master's degree program in medical research. These are described below. General requirements for the Master of Science degree may be found on page 36, or at our Web site: <http://www.med.wayne.edu/gradprog/>.

## Doctor of Philosophy

Programs leading to the Doctor of Philosophy degree in the basic medical sciences are under the jurisdiction of the Graduate School of the University. Majors within the School of Medicine are available in the following academic areas: anatomy and cell biology, biochemistry and molecular biology, cancer biology, immunology and microbiology, medical physics, molecular biology and genetics, pathology, pharmacology, physiology, and translational neuroscience. Brief program descriptions are provided under each department heading in the following pages, as are listings of graduate courses offered by the School of Medicine. The program in medical physics is described in the Radiation Oncology Departmental section of this bulletin. Programs in cancer biology, molecular biology and genetics, and Translational Neuroscience are described below.

Ph.D. students, admitted to one of the graduate programs listed above, typically enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) core curriculum (see page 422) during their first year. The IBS is a broad-based curriculum involving courses in Biomedical Molecular Biology and Biomedical Cell Biology and selected courses in the IBS Systems curriculum. Details of the core curriculum may be found in the individual descriptions of each Ph.D. program. General requirements for the Doctor of Philosophy degree may be found beginning on page 37, or at our Web site: <http://www.med.wayne.edu/gradprog/>

The thirty credit dissertation registration requirement is fulfilled by registering for the courses 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively) offered under various subject area codes, in consecutive academic year semesters.

## Joint Doctor of Medicine / Doctor of Philosophy Degrees

A joint M.D. and Ph.D. program of study may be designed to provide an opportunity for exceptionally talented students to acquire knowledge and expertise in both research and clinical medicine. By combining and interrelating the Doctor of Medicine and Doctor of Philosophy programs, the dual degree objectives may be accomplished effectively and often in a shorter time than is possible by two

separate degree programs completed in sequence. Such a program will prepare the student to assume investigative leadership in medical schools and in institutes for medical research. This program is flexible so that it can be adapted to best suit the student's discipline, needs and objectives.

**Admission:** Students will apply to the joint degree program at the time that they apply to the School of Medicine via the American Medical College Application Service (AMCAS). However, failure to be admitted to the joint degree program will not alter the student's opportunity to be considered for medical admission. In some instances, medical students may be admitted during their first or second year of undergraduate medical school, but this will involve other means of financial support than when he/she has been admitted by a joint process to the M.D.-Ph.D. program in the School of Medicine. At the time of acceptance to the joint degree program, students will be required to submit a graduate application. Students interested in a joint degree program may contact the Graduate Programs Office in the School for further information and counseling.

**Degree Requirements:** The requirements for the joint M.D.-Ph.D. degrees conform to those established for the separate degrees by the School of Medicine, the Graduate School, and the individual departments involved. For M.D. requirements see page 409; for Ph.D. requirements, see the following degree-specific sections.

## Financial Support for Graduate Study

Graduate assistantships, fellowships and tuition scholarships are available for qualified students admitted to the various graduate programs. All forms of support are limited in number and are awarded on a competitive basis. The School endeavors to generate support for all qualified full-time doctoral and M.D.-Ph.D. students.

## GRADUATE PROGRAMS

### Ph.D. in Interdisciplinary Biomedical Sciences

The School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum is open only to students in the School of Medicine and the graduate medical programs listed below; admission of others requires consent of the Curriculum Director. The Core Curriculum consists of the foundation courses IBS 7010 and IBS 7020, plus four credits in IBS Systems Courses (7040-7090). Completion of the Core Curriculum is recommended during the first year of Ph.D. study; it must be completed by the end of the second year.

Enrollment in IBS courses is restricted to students in the following programs: Anatomy and Cell Biology; Biochemistry and Molecular Biology; Biomedical Engineering; Cancer Biology; Immunology and Microbiology; Medical Physics; Molecular Biology and Genetics; Pathology; Pharmacology; Physiology; and Translational Neuroscience. Admission of other students requires the consent of the Curriculum Director.

### Graduate Courses (IBS)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

#### **7010 Biomedical Molecular Biology. Cr. 5**

Open only to Ph.D. students in the School of Medicine. Molecular biology, biochemistry, and genetics; focuses on structure and function of macromolecules, synthesis of macromolecules and regulation, and genetics including normal and disease conditions. (F)

#### **7020 Biomedical Cell Biology. Cr. 5**

Open only to Ph.D. students in School of Medicine. Cellular components, function, and regulation involved in fundamental processes, including: cell communication and signaling, intracellular protein targeting and trafficking, cell cycle, apoptosis, immunology, cancer, and

differentiation. Particular emphasis on human health, disease, and aging. (F)

**7030 (MBG 7030) Functional Genomics and Systems Biology. Cr. 2**

Open only to Ph.D. students in School of Medicine. Prereq: IBS 7010 and 7020; coreq: IBS 7040, 7050, 7060, or 7090. 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. (W)

**7040 Biomedical Cardiovascular, Renal and Respiratory Systems. Cr. 2**

Open only to Ph.D. students in School of Medicine. Prereq: IBS 7010 and 7020. Anatomic and cellular organization, systemic and cellular-molecular functions, and diseases in these systems. (W)

**7050 Biomedical Neurobiology. Cr. 2**

Open only to Ph.D. students in School of Medicine. Prereq: IBS 7010 and 7020. Sensory, motor, and integration of nervous systems, including anatomic and cellular organization, systemic and cellular-molecular functions, and diseases. (W)

**7060 Biomedical Endocrine and Reproductive Systems and Development. Cr. 2**

Open only to Ph.D. students in School of Medicine. Prereq: IBS 7010 and 7020. Anatomic and cellular organization, normal functions and pathologic conditions in these systems and processes. (W)

**7080 Biomedical Gastrointestinal Systems and Nutrition Biology. Cr. 1**

Open only to Ph.D. students in School of Medicine. Prereq: IBS 7010 and 7020. Anatomic and cellular organization, normal functions, and diseases of gastrointestinal systems and interrelationship with nutrition. (W)

**7090 Biomedical Immunology. Cr. 2**

Open only to Ph.D. students in School of Medicine. Prereq: IBS 7010 and IBS 7020. Cellular-molecular and systemic functions, and diseases of the immune system. (W)

## Master of Science in Basic Medical Sciences

Office: 1128 Scott Hall

Program Director: Robert J. Pauley, Ph.D.

The Basic Medical Sciences (BMS) program offers a didactic, multidisciplinary (broadly-based), and human biology-oriented curriculum. The BMS program can enhance the academic preparation of individuals holding a bachelor's, master's or professional degree who are seeking to subsequently matriculate into human or veterinary medical, dental, or pharmacological professional degree programs. The curriculum can facilitate career advancement of individuals employed in the areas of biomedical research and science education. The curriculum is NOT for individuals holding M.D., D.D.S., Pharm.D. or equivalent degrees; such individuals interested in medical or biomedical research are referred to the M.S. in Medical Research program (see page 424).

The curriculum involves courses from several basic science departments and programs, each one representing a unique discipline within the Wayne State University School of Medicine. At least one BMS CORE course from each of at least four different disciplines is required. The curriculum also has advanced basic medical science electives. The Master of Science in Basic Medical Sciences degree is a Plan B master's essay curriculum that requires an original critical evaluation of a specific topic in current biomedical science commonly based on analysis of current biomedical literature; original experimental research is not required. Additional curriculum information is

available at <http://gradprograms.med.wayne.edu/program-spotlight.php?id=34>

**Admission** to the BMS program is contingent upon admission to the Graduate School, for requirements, see page 18. A minimum of a bachelor's or equivalent degree is mandated by the Graduate School which requires for admission an original official degree posted transcript. Applicants must have an earned cumulative grade point average of at least 3.00 for 'regular' admission to the B.M.S. Program, and at least one year of general biology, two years of chemistry (inorganic and organic) and one year of general physics at the undergraduate level. A major in a biologic or chemical science is preferred; applicants with other majors will be considered. Applications must be submitted online (see url at the end of this paragraph) which allows electronic submission of the applicant's information, statement of purpose, and the three required references. Additionally, applicants must land mail to the BMS program copies (originals are not required) of a current or final official transcript(s) from all prior academic institutions in which the applicant is/was enrolled. Also, applicant's must provide a score report(s) (original or copy) from a recent standardized exam; MCAT, DAT, GRE or PCAT. Application details are at:

<http://gradprograms.med.wayne.edu/program-spotlight.php?id=34>

**DEGREE REQUIREMENTS:** The Master of Science in Basic Medical Sciences is offered only as a Plan B master's degree that requires completion of thirty-four credits in the BMS curriculum and must include a graded Master's essay (BMS 7999). All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively. Specific requirements include:

### REQUIRED CORE COURSES:

A minimum of four CORE courses, each one from a different basic science discipline/subject area (as reflected in the different two- or three- letter course prefixes), must be chosen from the following (a few alternative Core courses are available with Program Director approval):

- BMB 7010 -- General Biochemistry Lecture: Cr. 4
- C B 7210 -- (PHC 7210) Fundamentals of Cancer Biology: Cr. 3
- I M 7010 -- Fundamentals of Immunology: Cr. 2
- I M 7020 -- Fundamentals of Microbiology: Cr. 3
- I M 7030 -- Molecular Biology of Viruses: Cr. 2
- MBG 7010 -- Molecular Biology and Genetics: Cr. 4
- MTX 7010 -- Principles of Toxicology (BIO 7011)(PHC 7410): Cr. 3
- PHC 6500 -- Drugs and the Addictive Process: Cr. 3
- PHC 7010 -- Pharmacology Lecture: Cr. 4
- PHC 7410 -- Principles of Toxicology: Cr. 3
- PSL 7010 -- Basic Graduate Physiology Lecture I: Cr. 4
- PSL 7030 -- Basic Graduate Physiology Lecture II: Cr. 4
- PTH 7500 -- Systemic Pathophysiology: Cr. 3
- PYC 7010 -- Neurobiology I: Cr. 3

### Elective Courses

Elective credits, from selected BMS elective courses, sufficient to complete the thirty-four earned cumulative credit degree requirement must be approved by written consent of the Program Director.

### Plan of Work Requirement

The Plan of Work is developed and filed in association with the Program Director or his/her designee. The deadline is specified by the Graduate School and enforced by the Registrar.

### Essay Requirement

- BMS 7999 -- Essays in Basic Medical Science: Cr. 3

The Essay Advisor, Committee, and *essay topic* are selected with the advice and approval of the BMS Program Director. The committee must be composed of three graduate faculty members, including the Essay Advisor who then is also appointed as the student's academic advisor. The Essay Outline must be approved by the BMS Program Director. The Essay document must be presented to all Committee members for evaluation, approval and final grading. At the discretion of the Essay Advisor and Committee the evaluation may require an oral presentation and defense of the essay.

## Graduate Courses (BMS)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### **6010 Responsible Conduct in Biomedical Research. Cr. 1**

Offered for S and U grades only. 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. (S)

### **6050 Academic Emergency Medicine Clinical Research Practicum. Cr. 3**

Introduction to clinical research methodology, including historical context of research methods and evolving ethical standards. Didactic training and clinical exposure to enhance understanding of role of research in patient care. (F,W)

### **6550 Medical Anatomy for Health Professionals. Cr. 4**

Prereq: consent of BMS program director. Basics of human anatomy for BMS and selected graduate students. Material Fee As Indicated In The Schedule of Classes (S)

### **7100 Introduction to the Business of Biotechnology. Cr. 2**

Translation of biomedical innovation from bench to bedside, with focus on interplay between healthcare needs, regulatory agencies, and commercialization pathways. (W)

### **7880 Special Topics/Projects. Cr. 1-4**

Prereq: consent of BMS program director. Open only to Basic Medical Science M.S. program students. Up to four credits in research, laboratory, discussion, or field work, in any combination; for students in Basic Medical Sciences or Medical Research program. (T)

### **7999 Essays in Basic Medical Science. Cr. 3**

Prereq: approved Plan of Work; consent of advisor and BMS program director. Open only to Basic Medical Science M.S. program students. Methodologies in library research and critical evaluation of current biomedical literature. Written summary and report on a specific topic in current biomedical literature. (T)

## Master of Science in Medical Research

Office: 1128 Scott Hall

Program Director: Robert J. Pauley, Ph.D.

The Medical Research (MDR) program provides multi-disciplinary (broadly-based) human biology-oriented master's level education and requires basic and/or clinical biomedical research training. This degree is available to individuals who have a professional medical (M.D., D.O.), dental (D.D.S.), pharmaceutical (Pharm.D.), or equivalent degree in human health care. The MDR program enables individuals to obtain research credentials for entry into an academic medical, dental, or pharmacologic research career, or for individuals already in an academic medical, dental, or pharmacologic career to change their research emphasis. The MDR program is limited to individuals who are actively participating in Wayne State University School of Medicine affiliated post-graduate clinical medicine training, or affiliated faculty.

For further details consult the program Website:

<http://gradprograms.med.wayne.edu/program-spotlight.php?id=33>

Inquiries should be sent to the Program Director.

**Admission** to this program is contingent upon admission to the Graduate School, for requirements, see page 18. Proof of a professional medical (M.D., D.O.), dental (D.D.S.), pharmaceutical (Pharm.D.) or equivalent professional degree in human health care is required. Applications must be submitted online (see <http://www.med.wayne.edu/gradprog/programs/medres.htm>) which allows submission of the applicant's information, statement of purpose, and the three required references. One of the references must be from the prospective thesis advisor who must be a WSU School of Medicine Graduate Faculty member. An applicant must provide the MDR Program copies (originals are not required) of official transcripts with proof of a degree from professional degree-granting institutions in which the applicant was enrolled. International medical graduates must provide a valid certificate from the Educational Commission for Foreign Medical Graduates. Application details are at <http://www.med.wayne.edu/gradprog/programs/medres.htm>.

**DEGREE REQUIREMENTS:** The Master of Science in Medical Research is offered only as a Plan A master's program requiring completion of thirty credits, including eight credits in MDR 8999-Master's Thesis Research and Direction, and a Master's Thesis. Completion of the degree requires original and independent experimental research reported in the Master's thesis. All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively. Specific requirements include:

### **REQUIRED CORE COURSES:**

A minimum of two courses, each one reflecting a different discipline/subject area (as reflected in the different two- or three-letter course prefixes) must be chosen from the following:

- BMB 7010 -- General Biochemistry Lecture: Cr. 4
- BMS 6010 -- Responsible Conduct in Biomedical Research: Cr. 1
- C B 7210 -- (PHC 7210) Fundamentals of Cancer Biology: Cr. 3
- FPH 7015 -- Biostatistics I: Cr. 3
- FPH 7210 -- Research Methods for Health Professionals: Cr. 4
- I M 7010 -- Fundamentals of Immunology: Cr. 2
- I M 7020 -- Fundamentals of Microbiology: Cr. 3
- I M 7030 -- Molecular Biology of Viruses: Cr. 2
- MBG 7010 -- Molecular Biology and Genetics: Cr. 4
- MBG 7090 -- Scientific Communication I: Cr. 2
- MBG 7091 -- Scientific Communication II: Cr. 2
- MTX 7010 -- Principles of Toxicology (PHC 7410)(BIO 7011): Cr. 3
- PHC 6340 -- Chemical Basis of Pharmacology: Cr. 3
- PHC 6500 -- Drugs and the Addictive Process: Cr. 3
- PHC 7010 -- Introduction to Pharmacology: Cr. 4
- PSL 7010 -- Basic Graduate Physiology Lecture I: Cr. 4
- PSL 7030 -- Basic Graduate Physiology Lecture II: Cr. 4
- PTH 7500 -- Systemic Pathophysiology: Cr. 3
- PYC 7010 -- Neurobiology I: Cr. 3
- PYC 7020 -- Neurobiology II: Cr. 3

### **Elective Courses**

Elective credits sufficient to complete the degree requirements must be approved by written consent of the Program Director.

**The Plan of Work** is developed by the student in consultation with the prospective thesis advisor and filed with the Program Director. The deadline is specified by the Graduate School and enforced by the Registrar. With the Program Director's approval the student is advanced to candidacy status.



**Thesis Requirement:** Completion of BMS 8999, Master's Thesis Research and Direction, Cr. 8; prereq: M.S. in Medical Research candidacy status, approved thesis outline, consent of advisor, and authorization by MDR Program Director.

**Thesis Advisor:** The advisor is selected with the advice and consent of the Program Director. The Thesis Committee, selected with the advice and consent of the Thesis advisor, must be composed of three graduate faculty members, including the thesis advisor who also serves as the student's academic advisor for the remainder of his/her program. The candidate must prepare an outline of the thesis, obtain signatures of approval from all Committee members, and file with Program Director for approval.

**Thesis and Defense:** The thesis document must be provided to the Thesis Committee for review prior to the oral defense. The Committee evaluates the thesis document and following the subsequent oral defense determines the BMS 8999 final grade (see page 424).

## Graduate Courses (MDR)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 7090 Fellowship Writing. Cr. 2

Open only to students in M.D./Ph.D. dual degree program. 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. (F)

### 7100 Clinical Research Design. Cr. 2

Open only to students in M.D./Ph.D. dual degree program. 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. (F,W)

### 7110 Clinical Field Experience. Cr. 0-2 (Max. 2)

Open only to students in M.D./Ph.D. dual degree program. Offered for S and U grades only. 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. (F,W)

### 7410 (LEX 7410) International Organizations and Public Health. (MDR 7410) Cr. 3

Prereq: LEX 6200 and LEX 6600. 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. (Y)

### 7420 Topics in International Health Medicine. Cr. 2

Prereq: consent of instructor. 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. (B)

### 7990 Directed Study in Pediatric Global Health. Cr. 4

Prereq: consent of instructor. 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. (B)

### 8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)

Prereq: candidacy status; approved thesis topic and outline; written consent of advisor and MDR Program. Open only to students enrolled in Master of Science in Medical Research Program. (T)

## Master of Science and Doctor of Philosophy in Molecular Biology and Genetics

Office: 3127 Scott Hall; 313-577-5323

Director: Lawrence I. Grossman

Website: <http://www.genetics.wayne.edu>

### Professors

Abdul Abou-Samra, Gerald L. Feldman, Russell Finley, Jr., Alexander Gow, Lawrence I. Grossman, John Kamholz, Gregory Kapatos, Stephen A. Krawetz, Markku Kurkinen, Wayne D. Lancaster, Jeffrey Loeb, Michael Tainsky

### Adjunct Professors

Scott Dulchavsky, Gary Gibson, Edward Griffor, George Grunberger, Barry Wolf,

### Associate Professors

Leon Carlock, Henry H.Q. Heng, Mark Huttemann, Susan Land, Li Li, Derek Wildman

### Adjunct Associate Professor

Leonard Lutter

### Assistant Professors

Francesca Luca, Leonard Lipovich, Fei Song, Angela M. Trepanier, Monica Uddin, Kezhong Zhang, Ren Zhang.

### Adjunct Assistant Professors

Julie Zenger Hang, Cheryl Hess, Jeremy Laukka, Kristin G. Monaghan, Mary Quigg, Jacquelyn Roberson, David Svinarich

### Adjunct Instructors

Janice V. Bach, Joan V. Conard, Amy Decker, Nancy Petrucelli-Walden, Peggy W. Rush

### Associates

Michael Bannon (Pharmacology), David Bassett (Occupational and Environmental Health), George Brush (Pathology and Oncology), Donald DeGracia (Physiology), Felix R. Fernandez-Madrid (Internal Medicine), Karin Przyklenk (Physiology and Emergency Medicine), Jeffrey Ram (Physiology), Lobelia Samavati (Pulmonary Critical Care), Assia Shisheva (Physiology), Robert P. Skoff (Anatomy and Cell Biology), Bonnie F. Sloane (Pharmacology), Steven Zielske (Radiation Oncology)

Graduate programs in molecular biology and genetics are offered in cooperation with the Center for Molecular Medicine and Genetics (CMMG). Students 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..

The Molecular Biology and Genetics Program offers curricula leading to the Master of Science and Doctor of Philosophy degrees. The doctoral degree is standard in the program; master's study is recommended only for special circumstances and for the genetic counseling graduate program. A joint M.D.-Ph.D. program is also available. Inquiries about these programs should be directed to the Graduate Officer, Molecular Biology and Genetics Program.

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421). Applicants must have: 1) a minimum grade point average of 3.0; 2) a strong background in one of the chemical or biological sciences; 3) three letters of recommendation sent directly to the Graduate Officer, Molecular Biology and Genetics Program; 4) a personal statement; and 5) applicants should provide Graduate Record Examination scores. International students must be proficient in English and demonstrate a satisfactory performance on the TOEFL English proficiency examination. Members of the admissions committee will interview select applicants.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; for requirements, see the sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** Requirements for students enrolled in graduate degree programs are described in this bulletin beginning on page 36. Ph.D. students in the graduate program in molecular biology and genetics enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The IBS curriculum includes:

IBS 7010 -- Biomedical Molecular Biology: Cr. 5  
IBS 7020 -- Biomedical Cell Biology: Cr. 5.

It also includes selection by the student in conjunction with the program Graduate Officer of courses within the IBS Systems curriculum.

#### IBS Systems Curriculum

IBS 7030 -- Functional Genomics and Systems Biology (MBG 7030): Cr. 2  
IBS 7040 -- Biomed. Cardiovascular, Renal and Resp. Syst.: Cr. 2  
IBS 7050 -- Biomedical Neurobiology: Cr. 2  
IBS 7060 -- Biomedical Endocrine and Reproductive Syst.: Cr. 2  
IBS 7080 -- Biomedical Gastrointestinal Systems and Nutrition: Cr. 1  
IBS 7090 -- Biomedical Immunology: Cr. 2.

#### Required Molecular Biology and Genetics

MBG 7090 -- Scientific Communication I: Cr. 2  
MBG 7460 -- Research Training in Molecular Biology and Genetics: Cr. 1-8  
MBG 7600 -- Advanced Human Genetics: Cr. 4  
MBG 8680 -- Adv. Topics in Molecular Biology and Genetics: Cr. 1-3

Students will generally select a variety of other courses in the program, should have a basic understanding of biochemistry, and are expected to become computer-literate. Additional courses will be arranged to meet the individual needs of the student. The program will enable the student to demonstrate a basic understanding of molecular biology and genetics, in order to pass a general examination for candidacy for the Ph.D. degree.

**Dissertation:** Thirty credits in dissertation research are required in the Ph.D. program. The thirty credit dissertation requirement is fulfilled registering for the courses MBG 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The remaining credits will be assigned to research or course work in accordance with the needs of the students and the requirements in the field of

concentration. At least fifteen credits in research are required beyond the minimum Ph.D. program requirements.

**Graduate Research Assistantships:** All students admitted to the program are supported by graduate research assistantships. For more complete information, students should consult or write the Graduate Officer, Molecular Biology and Genetics Program, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201..

## — Ph.D. with a Concentration in Bioinformatics and Computational Biology

The concentration in bioinformatics and computational biology is intended for doctoral students in molecular biology and genetics or computer science who wish to receive didactic and research training in this specialization. Students will be prepared to work at the interface between computer science, biology, and biomedical research. They will be trained to identify important biological problems that require computational bioinformatics solutions, and to identify and apply appropriate approaches to address these problems. This concentration has been developed to provide outstanding and highly-motivated students with specialized training needed to initiate productive work in their areas of specialization. General admission and degree requirements are the same as cited above for the Ph.D. program in molecular biology and genetics or for the Ph.D. in computer science (see page 179). Concentration requirements are as follows:

#### REQUIRED COURSES:

CSC 7300 -- Bioinformatics I: Biological Databases and Data Analysis: Cr. 3  
CSC 7301 -- Bioinformatics I: Programming Lab: Cr. 1  
CSC 7400 -- Bioinformatics II: Cr. 4  
IBS 7010 -- Biomedical Molecular Biology: Cr. 5  
MBG 7010 -- Molecular Biology and Genetics: Cr. 4

**Electives** appropriate to each student's background and interests will be selected by the student and his/her advisor and could include courses such as: MBG 7030, Functional Genomics and Systems Biology.

*Note:* computer science students must complete IBS 7010 and MBG 7010 (separate and different courses) before enrolling in the Bioinformatics courses. CSC 7300 and 7301 must be completed before CSC 7400.

## — Ph.D. with a Concentration in Molecular and Cellular Neuroscience

Students in the concentration will enter through the Ph.D. program in molecular biology and genetics and will satisfy the major core requirements of that program (see above). In addition, students who are admitted to the concentration in molecular and cellular neuroscience will take a series of courses in neuroscience-related topics that will satisfy the requirements for a minor. Successful students should, by the completion of their graduate training, be able to identify important biological problems at the limits of current knowledge in one of the major areas of neuroscience, and be able to identify and apply appropriate approaches to address those problems. General admission and degree requirements are the same as cited for the Ph.D. program in molecular biology and genetics. Concentration requirements are as follows:

#### REQUIRED COURSES:

MBG 7810 -- Systems Neuroscience: Cr. 2  
MBG 8000 -- Molecular Biology of Neurologic Disease: Cr. 2  
MBG 8100 -- Developmental Neurobiology: Cr. 3

## Master of Science in Genetic Counseling

Office: 2375 Scott Hall; 313-577-6298

e-mail: geneticcounseling@med.wayne.edu.

### Program Directors:

Angela M. Trepanier, M.S., C.G.C.

Genetic counselors are medical professionals who help people understand and adapt to the medical, psychological and familial implications of genetic contributions to disease. This is achieved by procuring and interpreting family and medical histories to assess the chance of disease occurrence or recurrence, educating patients about inheritance, testing, management, prevention, resources and research, and providing counseling to promote informed decision making and adaptation to genetic risk or genetic disease. The practice of genetic counseling requires comprehensive knowledge of human and medical genetics in combination with an appreciation for the psychological, ethical, and social issues associated with genetic disorders. It also requires critical thinking and interpersonal communication skills. Genetic counselors generally work as part of a health care delivery team in a variety of genetics clinics such as pediatric genetics, reproductive genetics, cancer genetics, metabolic clinic, cardiovascular genetics and neurogenetics. They are also involved in research, teaching, public health and screening programs, disease-specific support groups, public policy and administration.

The graduate program in genetic counseling is designed to prepare students with the appropriate knowledge base and practical experience to function as genetic counselors in a variety of clinical work settings. The curriculum consists of course work in fundamental genetic principles, human and medical genetics, embryology, epidemiological principles, and interviewing and counseling techniques. In addition, students gain practical experience by doing supervised clinical internships in a variety of genetic and subspecialty clinics as well as clinical genetics laboratories. Students are also required to complete a clinical research project (Plan B). This program is accredited by the American Board of Genetic Counseling.

Additional information and requests for application materials can be obtained by contacting the, Genetic Counseling Graduate Program office, 2375 Scott Hall, Wayne State University School of Medicine.

**Admission** to this program is contingent upon admission to the Graduate School and the Graduate Programs of the School of Medicine, see pages 18 and 421, respectively. Applicants must have a baccalaureate degree with a grade point average of at least 3.0. Undergraduate course work in biology, biochemistry, chemistry, genetics, organic chemistry, statistics and psychology is required. Also required are three letters of recommendation, a written essay, and Graduate Record Examination scores. Prospective students are encouraged to obtain exposure to a genetic counselor or clinical setting with relevance to developmental disabilities and genetic diseases. In addition, advocacy experience is highly recommended.

**DEGREE REQUIREMENTS:** The Master of Science in Genetic Counseling is offered only as a Plan B Graduate School program, requiring a research project, including approximately forty-two credits: twenty-six credits in core course work, six credits in clinical internships, four credits for the research project and six elective credits. A detailed listing of the required courses is available from the Program Director. All course work must be completed in accordance with the academic rules and regulations of the Graduate School and the School of Medicine, see pages 18 and 421, respectively.

## Graduate Courses (MBG)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 7010 Molecular Biology and Genetics. Cr. 4

Prereq: organic chemistry background. Basic aspects of molecular genetics. (F)

### 7030 Functional Genomics and Systems Biology. (IBS 7030) Cr. 2

Prereq: IBS 7010 and IBS 7020 or consent of instructor. 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. (B)

### 7090 Scientific Communication I. Cr. 2

Prereq: consent of instructor. Written and oral skills used in effective communication of scientific information and data. (B)

### 7091 Scientific Communication II. Cr. 2

Prereq: MBG 7090 or consent of instructor. Advanced technical and grant-writing techniques related to the unique requirements in NIH grant proposals. (W)

### 7120 (PHC 7220) Cell and Molecular Biology of Cancer Development. (C B 7220) Cr. 3

Prereq: PHC 7210; BMB 7010 or CHM 7620 or equiv. Detailed analysis of neoplastic cells at cellular and molecular levels. Emphasis on critical genes in cancer development, nature of changes in these genes and how genetic changes result in altered cellular phenotypes that are involved in malignancy. (B)

### 7140 Nucleic Acids. Cr. 2

Prereq: MBG 7010 and 7020 or equiv., or consent of instructor. Detailed examination of the basic chemical and physical principles that affect the stability of DNA and some of the major reactions it undergoes, both in vivo and in vitro. RNA also treated as appropriate. (B)

### 7300 (CSC 7300) Bioinformatics I: Biological Databases and Data Analysis. (MBG 7300) Cr. 3

Prereq: MAT 2010; coreq: CSC 7301/MBG 7301 or consent of instructor. Concepts of bioinformatics; tools for storing and analysis of bioinformatics data. (W)

### 7301 (CSC 7301) Bioinformatics I: Programming Lab. (MBG 7301) Cr. 1

Coreq: CSC 7300/MBG 7300 or consent of instructor. Hands-on experience and exercises for CSC 7300/MBG 7300 lectures. Material fee announced in Schedule of Classes. (W)

### 7400 (MBG 7400) Molecular Biology of Cellular Signalling. (C B 7400) Cr. 2

Molecular basis of cell-cell interactions, hormonal interactions, and interactions between different cellular compartments. (B)

### 7410 (CSC 7410) Bioinformatics II. (MBG 7410) Cr. 4

Prereq: CSC 7300, CSC 7301, MBG 7010. Biology of bioinformatics, DNA and protein sequencing, introduction of systems biology, mRNA expressions analysis, pathway and molecular machines analysis. (W)

### 7460 Research Training in Molecular Biology and Genetics. Cr. 1-8

Prereq: consent of advisor or graduate officer. 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. (T)

### 7600 Advanced Human Genetics. Cr. 4

Concepts, problems, and methods of human genetics at an advanced level. (B)

**7640 Principles of Genetic Counseling. Cr. 3**

Prereq: admission to genetic counseling graduate program. 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. (B)

**7660 Practical Applications of Genetic Counseling. Cr. 1**

Prereq: MBG 7640; student in Genetic Counseling graduate program or consent of instructor. Through a variety of instructional methods, students gain a foundation for understanding and applying the practical aspects of genetic counseling to clinical settings in reproductive, pediatric, adult, and cancer genetics. (W)

**7700 Hot Topics in Molecular Medicine. Cr. 2**

Prereq: completion of first year in interdisciplinary biomedical sciences curriculum. Lectures and discussion groups for graduate-level students in the biological sciences. How to go from the bench-top to the bedside by exploring the latest developments in basic biomedical research and translating them into new treatments for human disease. (B)

**7740 Theory and Practice of Genetic Counseling. Cr. 3**

Prereq: MBG 7640; admission to genetic counseling graduate program. Major theories of human behavior and application of these theories to the practice of genetic counseling. Development of interpersonal communication and psychosocial assessment skills. (W)

**7741 Advanced Genetic Counseling Theory and Practice. Cr. 3**

Prereq: MBG 7740; admission to genetic counseling graduate program. 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. (F)

**7800 Advanced Medical Genetics. Cr. 3**

Prereq: MBG 7600. 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. (T)

**7810 Systems Neuroscience: Structure and Function of the Nervous System. Cr. 2**

Students in the cellular and molecular sciences are prepared with sufficient background in neuroscience to read the scientific literature and/or to evaluate or participate in a research project. (W)

**7830 Human Development and Teratology Seminar. Cr. 1**

Prereq: admission to Master of Science program in genetic counseling. 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. (F)

**7840 Recent Advances in Molecular Biology and Genetics. Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Offered for S and U grades only. Seminars on unpublished work presented by invited speakers from the scientific community. (T)

**7850 Current Topics in Molecular Biology and Genetics. Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Offered for S and U grades only. Current literature in molecular biology and genetics; one student makes oral presentation with student and faculty discussion. (I)

**7860 Evaluating the Health Care Literature. Cr. 1**

Prereq: admission to genetic counseling graduate program. 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. (Y)

**7870 Evolution in Health and Disease. Cr. 2**

Prereq: consent of instructor. Ways in which evolutionary thought illuminates medical science. An advanced evolution class which examines statistical modeling of evolutionary data, phylogenetic methods, evolutionary theory, and medical relevance. (W)

**7880 Genetic Counseling Seminar. Cr. 1-6**

Prereq: admission to graduate program in genetic counseling. Discussion format; issues relevant to medical genetics and the genetic counseling process. Presentations by students and invited faculty. (T)

**7890 Research Conferences in Molecular Biology and Genetics. Cr. 1 (Max. 4, M.S.; max. 6, Ph.D.)**

Offered for S and U grades only. Required course for Departmental graduate students. Weekly meetings of staff, invited guests and qualified students to learn about and discuss recent developments; one member discusses ongoing research, with a general discussion. (T)

**7910 (MBG 7910) Molecular Male Reproduction and Chromatin. (PSL 7910) Cr. 1**

Prereq: written consent of instructor. Current literature in molecular reproduction and the male reproductive tract. Presentations, weekly reviews, and final review paper. (F)

**7999 Master's Research Project and Direction. Cr. 1-5 (4 req.)**

Open only to M.S. candidates in genetic counseling program. Prereq: consent of instructor. Student conducts hypothesis-driven research and prepares written manuscript and oral presentation. (T)

**8000 Molecular Biology of Neurologic Disease: From Gene to Patient. Cr. 2**

Analysis of molecular and cellular basis for a select group of neurological diseases, including Alzheimer's Disease, Huntington Disease, Parkinson's Disease, neurofibromatosis and multiple sclerosis. (W)

**8100 Developmental Neurobiology. Cr. 3**

Prereq: MBG 7800. Students in the cellular and molecular sciences are prepared with sufficient background in developmental neuroscience to read the scientific literature and/or to evaluate or participate in a research project. (F)

**8680 Advanced Topics in Molecular Biology and Genetics. Cr. 1-3 (Max. 12)**

Prereq: consent of instructor. In-depth study of concepts and research in specific fields. (I)

**8770 Molecular Biology of Mitochondrial Disease. Cr. 2**

Prereq: IBS 7010 and IBS 7020 or equiv. 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. (F)

**8998 Genetic Counseling Internship. Cr. 1-8**

Prereq: admission to genetic counseling graduate program. Students work in variety of genetics and subspecialty clinics as well as laboratory settings, under supervision of genetic counselor/geneticist. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: consent of instructor. Open only to departmental M.S. candidates. Student conducts research and prepares written presentation, designed to test specific hypothesis dealing with method, concept, or data. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: MBG 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MBG 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: MBG 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MBG 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: MBG 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following MBG 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in MBG 9991- MBG 9994. Offered for S and U grades only.  
(T)

## Graduate Certificate in Pediatric Global Health

Office: School of Medicine Graduate Programs, 1128 Scott Hall  
Certificate Directors: Deepak M. Kamat, M.D., Ph.D.  
and Ambika Mathur, Ph.D.

The objectives of Graduate Certificate in Pediatric Global Health (GCPGH) are to: 1) increase clinicians awareness of the importance of international child health care, 2) encourage clinicians to explore a global child health career, and 3) have each clinician in the program interact with faculty who are experienced in international pediatric health care in order to increase their clinical competence and to jointly pursue scholarly activity in international pediatric health care. Enrollment in the GCPGH is limited to individuals with a professional medical (M.D., D.O.), dental (D.D.S.), pharmacy (Pharm.D.) or equivalent degree in human health care.

**Admission** to this program is contingent upon admission to the Graduate School and the Graduate Programs of the School of Medicine, see pages 18 and 421, respectively. An application must be filed online simultaneously to the GCPGH and the Graduate School at <http://www.med.wayne.edu/gradprog/programs.htm>, in which the applicant provides information and a very brief statement of purpose for enrolling in the GCPGH curriculum. A very brief reference, which also may be submitted through the online application system, is required from the prospective advisor of the applicant's intended international field clinical and research experience, or from a Wayne State University School of Medicine Graduate Faculty member who participates in GCPGH teaching, training or administrative functions. Admission to the GCPGH program requires that the applicant possess a professional medical (M.D., D.O.), dental (D.D.S.), pharmacy (Pharm.D.), or equivalent degree in human health care. The Graduate School requires submission of an official transcript; proof of degree may be surface-mailed to the GCGPH office. For international medical graduates, a copy of a current valid Educational Com-

mission for Foreign Medical Graduates certificate must be provided to the GCGPH office.

**DEGREE REQUIREMENTS:** The Graduate Certificate in Pediatric Global Health requires twelve credits in course work as well as an international field placement affording a clinical and research experience. The duration of the program is designed for twelve months, and cannot extend beyond twenty-four months. All course work must be completed in accordance with the academic rules and regulations of the Graduate School and the School of Medicine, see pages 18 and 421, respectively; a cumulative g.p.a. of at least 3.0 must be earned.

**REQUIRED COURSES:** The Graduate Certificate in Pediatric Global Health requires twelve credits in course work, including the following courses:

- ANT 5400 -- Anthropology of Health and Illness: Cr. 3
- LEX 7410 -- International Organizations and Public Health: Cr. 3
- MDR 7420 -- Topics in International Health Medicine: Cr. 2
- MDR 7990 -- Directed Study in Pediatric Global Health: Cr. 4

## Doctor of Philosophy with a Major in Translational Neuroscience

Program Director: Jeffrey A. Stanley, Ph.D.  
Office: 2309 Scott Hall

The Translational Neuroscience Program (TNP) is designed to graduate outstanding Ph.D. scientists who possess a strong multidisciplinary background in the fundamental and applied concepts in molecular, cellular and systems neurobiology, developmental neuroscience, neuroimaging and neuropsychopharmacology as they relate to neuropsychiatric disorders. This distinctive orientation fosters the development of outstanding research scientists who are able to link advances in basic neuroscience with the assessment and treatment of clinical problems. This program creates a unique environment in which the student is exposed to an integrated syllabus of basic science, preclinical research, clinical neurobiology, and cutting-edge neuroimaging technologies. In general, concepts of nervous system structure, biochemistry and function are presented not only as they interrelate as basic disciplines, but also as they relate to clinical neuroscience.

Additional information and requests for application material can be obtained at our website; <http://tnp.wayne.edu/> or by contacting the TNP Graduate Office, Scott Hall, Room 2309, 540 East Canfield, Detroit, MI 48201; (313) 577-5949; Fax: (313) 993-4269; [lcbrown@med.wayne.edu](mailto:lcbrown@med.wayne.edu).

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and satisfaction of requirements of the Graduate Programs of the School of Medicine (see page 421). Applicants must have an undergraduate degree including several courses in biological sciences and additional course work in other scientific disciplines. Three letters of recommendation are required from individuals able to judge the student's scientific potential. A one-page statement of purpose for applying in the translational neuroscience program, minimum grade point average of 3.0 (on a 4.0 scale), the Graduate Record Examination (GRE), and an interview with a Graduate Officer or designated representative from the Steering Committee are required. Writing samples including conference abstracts and presentations, or publications, are optional. Foreign students must be proficient in English as determined by satisfactory performance on the standardized TOEFL English proficiency examination. An interview with potential graduate faculty mentor(s) is also desirable.

**DEGREE REQUIREMENTS:** Students in the doctoral program are required to complete a minimum of ninety credits beyond the baccalaureate degree. Required courses include the following:

ANA 7130 -- Neuroanatomy: Cr. 4

BMS 6010 -- Responsible Conduct in Biomedical Research: Cr. 1

IBS 7010 -- Biomedical Molecular Biology: Cr. 5

IBS 7020 -- Biomedical Cell Biology: Cr. 5.

One of the following two-credit IBS courses

IBS 7030 -- Functional Genomics and Systems Biology: Cr. 2

IBS 7040 -- Biomed. Cardiovascular, Renal and Respiratory Systems: Cr. 2

IBS 7060 -- Biomedical Endocrine and Reproductive Systems: Cr. 2

IBS 7090 -- Biomedical Immunology: Cr. 2.

PSY 7150 -- Quantitative Methods in Psychology I: Cr. 4

PYC 7010 -- Neurobiology I: Cr. 3)

PYC 7140 -- Fundamentals of Neuroimaging: Cr. 3

PYC 7150 -- Fundamentals of Neuropsychiatric disorders: Cr. 3

PYC 7890 -- Research Seminar: Cr. 1 (Min. 6, Max. 8)

PYC 7990 -- Directed Study Cr. 1-6 (Max. 10)

PYC 7996 -- Research Problems: Cr. 1-10 (Max. 20)

PYC 7998 -- Clinical Neuroscience Rotation Cr. 3 (Max. 9)

PYC 9990 -- Pre-Doctoral Candidacy research: Cr. 1-8 (Max. 10)

PYC 9991-9994 -- Doctoral Dissertation and Research: Cr. 30 (total)

PYC 9995 -- Dissertation Research Maintenance: Cr. 0

*Advanced Topic Courses:* 12 credits minimum and 24 credits maximum encompassing neuroscience principles and methods, and the applications to nervous system disorders (starts in year 2)

Students are required to seek advice from a graduate advisor on his/her course selection. All course work must be completed according to requirements of the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421).

## Bridge Graduate Certificate in Clinical and Translational Science for M.D./Ph.D. Students

*Certificate Director:* Ambika Mathur, Ph.D.

*Office:* School of Medicine Graduate Programs, 1128 Scott Hall

The Graduate Certificate in Clinical and Translational Science (Bridge Program) trains M.D./Ph.D. students in the key elements of clinical and translational science. Thus, the curriculum for this certificate includes courses in biostatistics; epidemiology; development of novel clinical and translational methodologies; designing and implementing clinical trials and clinical research; understanding the clinical presentation, diagnosis, management and treatment of patients in the context of cutting-edge research methodologies; adhering to federal regulatory and ethical requirements in conducting clinical and scientific research; and preparing, writing and submitting competitive fellowship and grant applications to national and federal peer-reviewed funding agencies as well as performing research.

**Admission** to this program is contingent upon admission to the Graduate School and the Graduate Programs of the School of Medicine, see pages 18 and 421, respectively. Admission is limited to students in the M.D./Ph.D. program. Applicants should file a Change of Graduate Status with the School of Medicine Graduate Program Office and include a very brief statement of purpose for enrolling in this curriculum.

**DEGREE REQUIREMENTS:** This Graduate Certificate in Clinical and Translational Science requires fifteen credits of course work. Under this Bridge Program, all of the certificate credits may be applied toward the requirements of the M.S. in Medical Research (see page 424). The program is designed for seven to eight years, over the duration of the M.D./Ph.D. program. All course work must be

completed in compliance with Graduate School and School of Medicine graduate scholarship and certificate requirements, including a cumulative earned 3.0 g.p.a. in the courses offered for credit, and Satisfactory ('S') grades in the courses graded Satisfactory/Unsatisfactory (S/U).

**REQUIRED COURSES:** The Graduate Certificate in Clinical and Translational Science requires fifteen credits of courses including:

BMS 6010 -- Responsible Conduct in Biomedical Research: Cr. 1

FPH 7010 -- Introduction to Public Health: Cr. 1

FPH 7240 -- Epidemiology: Cr. 3

MDR 7090 -- Fellowship Writing for M.D./Ph.D. Students: Cr. 2

MDR 7100 -- Clinical Research Design for M.D./Ph.D. Students: Cr. 2

MDR 7110 -- Bench to Bedside for M.D./Ph.D. Students: Cr. 2

PSL 7710 -- Disease States & Reproductive Proc.: Cr. 1 (or equivalent course)



# Anatomy and Cell Biology

Office: 8374 Scott Hall; 313-577-1061  
Chairperson: Linda D. Hazlett  
E-mail: lhazlett@med.wayne.edu  
Website: <http://www.med.wayne.edu/anatomy/>

## Professors Emeritus

David B. Meyer, Roberta G. Pourcho

## Distinguished Professors

Linda D. Hazlett

## Professors

D. Randall. Armant, Bruce A. Berkowitz, Robert N. Frank, Harry G. Goshgarian, Renu A. Kowluru, Harry Maisel, Zhuo-Hua Pan, Jose A. Rafols, Robert P. Skoff, Paul D. Walker, Fu-Shin Yu

## Associate Professors

Joshua E. Adler, Mihir Bagchi, Rodney D. Braun, Markus Friedrich, Dennis J. Goebel, Mark E. Ireland, Kwaku D. Nantwi, Jean D. Peduzzi-Nelson, Gabriel Sosne

## Assistant Professors

Elizabeth Berger, A. Gene Holt, Xi Huang, Christian Kreipke, Ashok Kumar, P. Lalit Singh, Ryan Thummel, Andrei V. Tkatchenko, Jessie I. Wood,

## Adjunct Professors

Alexander Dizhoor, Anna C. Ettinger, Jerry Slightom, Gary Trick, Barry Winkler

## Adjunct Associate Professors

Stephan Kaufman, Clifford Les, Saul I. Weingarden

## Adjunct Assistant Professor

Joseph Failla

## Associates

Eishi Asano, Ghassan Saed, Craig Watson, Frank Yelian

## Graduate Degrees

*MASTER OF SCIENCE with a major in anatomy and cell biology*

*DOCTOR OF PHILOSOPHY with a major in anatomy and cell biology*

## Master of Science and Doctor of Philosophy Degrees

The Department of Anatomy and Cell Biology offers training for the investigation of biological and biomedical problems using molecular, cellular, and morphological approaches. Faculty members are active in a diversity of research areas, including cell and developmental biology, neuroscience, vision research, reproductive and evolutionary biology and immunology. Study for the Ph.D. degree includes dissertation research in the laboratory of a faculty member and can generally be completed in four to five years. Students who have also been admitted as medical students can typically complete both M.D. and Ph.D. degrees in six to seven years. Admission to the master's degree program is very limited and based on special circumstances.

During their first year, Ph.D. students typically enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum. The IBS curriculum includes:

IBS 7010 -- Biomedical Molecular Biology: Cr. 5  
IBS 7020 -- Biomedical Cell Biology: Cr. 5.

It also includes selection by the student in conjunction with the program Graduate Officer of courses within the IBS Systems curriculum.

IBS Systems Curriculum:

IBS 7030 -- Functional Genomics and systems Biology: Cr. 2  
IBS 7040 -- Biomed. Cardiovascular, Renal and Resp. Syst.: Cr. 2  
IBS 7050 -- Biomedical Neurobiology: Cr. 2  
IBS 7060 -- Biomedical Endocrine and Reproductive Syst. Dvlpt.: Cr. 2  
IBS 7090 -- Biomedical Immunology: Cr. 2

Opportunities are provided for the student to become acquainted with the diverse research interests of the faculty and to obtain hands-on experience in selected techniques. Seminars and elective courses broaden the exposure to clinically-relevant areas of research. In the second year, students may select advanced courses in several areas of Anatomy and Cell Biology and choose an advisor to assist in development and implementation of a dissertation research project. The graduate program is flexible and allows for continuing interdisciplinary training; emphasis is placed on designing a program which is tailored to the student's particular goals. In addition to developing research competence, individuals interested in pursuing teaching as part of a career will be able to achieve competence in neuroscience, embryology, and microscopic or gross anatomy.

**Vision Science Program:** Students interested in developing independent careers in the area of vision science may obtain specialty training in this research field. Through course work and clinical interactions, students receive broad based training which integrates basic science and clinical approaches to the understanding of eye function and ocular disease. Three courses (ANA 7055, 7065, and 7075) provide the background for individually directed research projects. Faculty from both the Department of Anatomy and Cell Biology and the Department of Ophthalmology participate as mentors in this unique program.

**Admission** to these programs is contingent upon admission to the Graduate School and the graduate programs of the School of Medicine; for requirements, see pages 18 and 421, respectively. Applicants must have an undergraduate degree. A minimum grade point average of 3.0 is required for admission to the Ph.D. program. An interview with the Graduate Committee Chairperson or designated representative is desirable. The Graduate Record Examination is required for admission. Foreign students must be proficient in English as determined by satisfactory performance on the standardized TOEFL English proficiency examination.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** The general requirements for the Master of Science and Doctor of Philosophy degrees may be found in the Graduate School section of this bulletin. The master's degree is offered as Plan A only, which includes a manuscript based on original research. Candidates for the Ph.D. are required to select at least two subsdiscipline courses in anatomy and cell biology from the following: ANA 7010, 7030, 7080, 7130; they also complete written and oral qualifying examinations. The major component of the Ph.D. program is preparation of a dissertation which details the results of original research.

The thirty credit dissertation registration requirement is fulfilled by registering for the courses ANA 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

## Assistantships and Research

The Department has graduate research assistantships available for a number of qualified students. All students accepted into the doctoral degree program are considered for financial assistance, and no application forms are necessary for this purpose. Students on assistantships are advised to elect no more than twelve credits in a given semester. All students, whether or not they hold a fellowship or assistantship, are required to assist the graduate faculty in teaching and research activities as a component of their educational experience. For more information on financial assistance, students should contact the Graduate Committee Chairperson, Department of Anatomy and Cell Biology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201.

## GRADUATE COURSES (ANA)

The following courses are offered for graduate credit to graduate students as indicated by individual course limitations. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7010 Human Gross Anatomy. Cr. 8**

Prereq: acceptance in departmental graduate program. Lectures and dissection of limbs, back, thorax, abdomen, head and neck, pelvis and perineum. Written and practical examinations. (F)

### **7030 Human Microscopic Anatomy. Cr. 4**

Prereq: acceptance in Anatomy and Cell Biology graduate programs. The microscopic structure of tissues and organs. Lectures and laboratory study. (F)

### **7055 Biology of the Eye. (BIO 7055) (PYC 7050) Cr. 3**

Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. (F)

### **7065 Mechanisms of Ocular Disease I. Cr. 2**

Prereq: ANA 7055. Lectures and readings on mechanisms and current treatments for diseases of the anterior segment of the eye. (W)

### **7075 Mechanisms of Ocular Disease II. Cr. 2**

Prereq: ANA 7055. Lectures and readings on mechanisms and current treatments for diseases of the posterior segment of the eye. (F)

### **7080 Human Embryology. Cr. 3**

Prereq: acceptance in Anatomy and Cell Biology graduate program. Study of experimental and human embryology; developmental processes, with particular reference to human embryology. (W)

### **7130 Neuroanatomy. Cr. 4**

Prereq: acceptance in Anatomy and Cell Biology graduate program. Lecture and laboratory study of the nervous system. (W,S)

### **7260 Special Dissection. Cr. 2-10 (Max. 20)**

Prereq: acceptance in Anatomy and Cell Biology graduate program. (T)

### **7270 Special Projects in Anatomy. Cr. 2-10**

Prereq: acceptance in Anatomy and Cell Biology graduate program. Research rotations leading to selection of permanent advisor. (T)

### **7890 Seminar. Cr. 1 (Max. 4)**

Prereq: acceptance in Anatomy and Cell Biology graduate program. Biweekly departmental seminar. (T)

### **7990 Directed Study in Physical Anthropology. (ANT 7990) Cr. 1-8 (Max. 8)**

(T)

### **7996 Research. Cr. 1-15 (Max. 30)**

Prereq: acceptance in Anatomy and Cell Biology graduate program. Research under direction of permanent advisor. (T)

### **8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: acceptance in Anatomy and Cell Biology graduate program. Original research leading to M.S. degree under Plan A. (T)

### **9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### **9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

### **9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: ANA 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ANA 9991. Offered for S and U grades only.

### **9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: ANA 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ANA 9992. Offered for S and U grades only.

### **9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: ANA 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following ANA 9993. Offered for S and U grades only.

### **9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in ANA 9991- ANA 9994. Offered for S and U grades only.





# Anesthesiology

Office: DRH/University Health Center; Suite 3J.1; (132) 54300

Chairperson: Douglas R. Bacon

## Professors

Douglas R. Bacon, Richard Balon, Marc Basson, Eli M. Brown (Emeritus), Morris Brown, H. Michael Marsh

## Adjunct Professors

Matthew Galloway, A. Guillermo Scieli

## Associate Professor, Full-Time Affiliate

Gaylord D. Alexander, Hong Wang

## Assistant Professor, Full-Time Affiliate

Elie J. Chidiac, John Dooley, Robin Delaney, Sharon Kemper, A. Michael Prus, Robert Tawil, Maria M. Zestos

## Clinical Professor

Samuel Perov

## Clinical Professor - Full-Time Affiliate

Hong Wang

## Clinical Associate Professors

William Alarcon, Jeffrey Clark, Samir F. Fuleihan, Halim Haber, Pramod Kerkar, Henry Kroll, Vitaly D. Soskin, Stephen Tennenberg

## Clinical Assistant Professors

Bruce Adelman, Zulfiqar Ahmed, Yasser Al-Baghdadi, Sapan Amin, Randall Amis, Daniel J. Applefeld, Lavonda Armstrong, Beata Bartecka-Skrzypek, Richard K. Baumgarten, Aaron P. Betel, Debashish Bhattacharya, Robert A. Blumberg, Baher Boctor, James C. Brown, Julie Buch, Shushovan Chakraborty, Hao Cheng, Lisa T. Cooper, Piyush Desai, Nasser Durgham, Amr Elsaadat, Christina W. Fidkowski, Margaret C. Gall, Naveen S. Gandreti, Aurelia Jamerson, Nabil Kadi, Edward R. Kaminski, John Kurtz, Todd E. Liningier, Joe Liu, Milos Marjanovic, Sharon Minott, Cheryl Mordis, Kevin S. Neff, Marc Orlewicz, Walid Osta, Mohamed L. Othman, Arvind Patel, Pranav S. Patel, Clarina Perez-Pascual, Zachary P. Price, Sanker Rajan, Jeffrey Rosenberg, Sruthi Rudraraju, Konstantin Rusin, Vikas Shah, Nabil, Sibai, Harpreet Singh, Theresa Stanton, Lori Stricker, Arina A. Monica Talpesh, Anand C. Thakur, Linda Vanni, Steven Wiener, Janet Wilczak, An Chi Wu

## Clinical Instructors

Bassam Jwaida

## Instructors, Full-Time Affiliate

Pikul Tontapanish, Selma Velilla

This department offers medical students a program in anesthesiology comprised of individual instruction in the operating room and a series of regularly scheduled seminars. The major objectives of study in this field include the acquisition of skills and knowledge related to: airway management, including endotracheal intubation; lumbar puncture and spinal anesthesia; monitoring of anesthetized patients; pharmacology of anesthetic agents and other drugs related to anesthesia; preoperative evaluation and preparation of a patient for anesthesia and surgery; physiology of the perioperative period; respiratory therapy including management of patients who require prolonged ventilator care; management of acute drug intoxication; and the management of pain. A one-month elective in anesthesiology is offered to medical students during their junior or senior year.

# Biochemistry and Molecular Biology

Office: 4374 Scott Hall; 313-577-1511

Chairperson: Bharati Mitra

Website: <http://www.med.wayne.edu/biochem/>

## Professors

William S. Brusilow, Brian F.P. Edwards, David R. Evans, Russell Finley, Ye-Shih Ho, Robert M. Johnson, Richard B. Needleman, Serge N. Vinogradov

## Associate Professors

Sharon Ackerman, Robert A. Akins, Marilyn S. Doscher, Domenico Gatti, Ladislav C. Kovari, James J. Lightbody, Xiangyi Lu, Douglas Ruden, Timothy L. Stemmler, Jianjun Wang

## Assistant Professors

Maik Huttemann, Chunying Li, QianQian Li (Research), Zhe Yang

## Graduate Degrees

*MASTER OF SCIENCE with a major in Biochemistry and Molecular Biology*

*DOCTOR OF PHILOSOPHY with a major in Biochemistry and Molecular Biology*

Students electing to study in the Department of Biochemistry and Molecular Biology will find faculty with a broad range of research interests, including structural studies of macromolecules by x-ray crystallography and nuclear magnetic resonance, role of metals in biology and disease, bioenergetics, enzymology, and the molecular basis of drug resistance. The variety of coursework available within the Department, elsewhere in the School of Medicine, and in various other University departments, allow the student to acquire a deep and appropriate contemporary scientific background for experimental research. The Department encourages the development of an individually designed thesis project in collaboration with a student's research mentor.

The Department of Biochemistry and Molecular Biology offers programs leading to the Master of Science and Doctor of Philosophy degrees. The master's degree is recommended for students who wish to enhance their academic and practical research training above the undergraduate level without committing to a complete Ph.D. program. This program is geared for students who wish to do research in the biotechnology or pharmaceutical industries, who seek admission to Ph.D. or M.D. programs, and those who wish to do technical or regulatory writing. The Ph.D. degree is standard in the Department for students planning teaching or research careers in this field. The department attempts to pattern students' programs according to their interests and at the same time, to provide them with diverse experiences in the major areas of biochemistry. An M.D.-Ph.D. program with a major in biochemistry is also available, see page 422.

## Master of Science with a Major in Biochemistry and Molecular Biology

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421). The degree is offered under Plan A only, in which eight of the thirty required credits must be from thesis research requiring the completion of an approved experimental research project. Students must have an undergraduate degree with

preferred majors being chemistry or biology although students with other majors such as mathematics or physics are welcome to apply. A minimum grade point average of 2.6 is required. The results of a Test of English as a Foreign Language (TOEFL) exam should also be presented by those applicants coming from countries where English is not the mother tongue.

**Degree Requirements:** Applicants for the Master of Science degree must complete thirty credits, including at least eight credits of master's research. Required coursework includes the following:

- BIO 6000 -- Molecular Cell Biology I: Cr. 3
- BMB 7010 --General Biochemistry Lecture: Cr. 4
- BMB 7320 -- Protein Structure and Function: Cr. 3
- BMB 7330 or 7360
  - Advanced Molecular Biology: Cr. 2
  - Advanced Structural Biology: Cr. 2
- BMB 7890 -- Journal Club (First Year): Cr. 1
- BMB 7890 -- Journal Club (Second Year): Cr. 1
- BMB 7996 -- Research (First Year): Cr. 2
- BMB 7996 -- Research (Second Year): Cr. 6
- BMB 8999 -- Master's Research: Cr. 8

The completion of an original research project and the preparation and presentation of a thesis are the primary activities of the second year.

## Doctor of Philosophy with a Major in Biochemistry and Molecular Biology

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421). Additionally, applicants are expected to meet the following departmental requirements: students must have an undergraduate degree. Preferred majors include chemistry, biology, or physics, although other students are encouraged to apply. A minimum grade point average of 3.0 for the Ph.D. program is required; and an interview with the Graduate Officer or designated representative should be arranged if possible. The Graduate Record Examination is required for admission. International students must be proficient in English as determined by satisfactory performance on the standardized TOEFL English proficiency examination.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** Applicants for the Doctor of Philosophy degree must complete ninety credits, including at least thirty credits in research and dissertation, at least six credits in a minor and the remaining credits distributed between the major and required cognate courses and electives. The thirty credit dissertation registration requirement is fulfilled by registering for the courses BMB 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. During their first year, students undertake rotations, each of ten weeks duration, in two laboratories of their choice. The intention of rotations is to allow the student to make an informed decision about his or her ultimate area of research specialization. Coursework requirements include two courses in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum:

- IBS 7010 -- Biomedical Molecular Biology: Cr. 5
- IBS 7020 -- Biomedical Cell Biology: Cr. 5

Additional courses (four credits) may be selected from:

- IBS 7040 -- Biomedical Cardiovas., Renal and Respiratory Syst.: Cr. 2
- IBS 7050 -- Biomedical Neurobiology: Cr. 2
- IBS 7060 -- Biomed. Endocrine and Reproductive Syst. and Devl.: Cr. 2
- IBS 7080 -- Biomed. Gastrointestinal Syst. and Nutrition Biol.: Cr. 1
- IBS 7090 -- Biomedical Immunology: Cr. 2

Required Departmental courses include:

- BMB 7320 -- Protein Structure and Function: Cr. 3
- BMB 7330 -- Advanced Molecular Biology: Cr. 2
- BMB 7890 -- Journal Club: Cr. 1 (6 credits req. Students participate in Journal Club every semester while in the BMB program.)

Each student must arrange a program in an area of minor concentration with a representative of the department in which he/she plans to minor and preferably with the representative on the doctoral committee. Concentrations in the following are among the acceptable minors: organic chemistry, physical chemistry, physical-organic chemistry, microbiology or immunology, pharmacology, physiology, biology and computer science.

## Assistantships and Research

The Department has graduate assistantships and graduate research positions available for a number of qualified students. All students accepted into the graduate degree programs are considered for financial assistance and no application forms are necessary for this purpose. Students on assistantships are advised to elect no more than ten credits in a given semester. All Ph.D. students, even those who do not hold a fellowship or an assistantship, are required to assist the graduate faculty in teaching and research activities as a component of their educational experience. For more complete information on financial assistance, students should consult or write the Graduate Officer, Department of Biochemistry and Molecular Biology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201. M.S. students are not financially supported by the program, but may be hired as research assistants and can apply for the Graduate Professional Scholarship.

## GRADUATE COURSES (BMB)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 7010 General Biochemistry Lecture. Cr. 4

Prereq: organic chemistry. Introduction to biochemistry: structure of biological molecules, enzymes, bioenergetics, intermediary metabolism. Biosynthesis of DNA, RNA, and proteins. (F)

### 7020 Biochemistry Laboratory Rotation. Cr. 0

Research projects with various faculty. (T)

### 7320 Protein Structure and Function. Cr. 3

Prereq: BMB 7010 or equiv. 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. (W)

### 7330 Advanced Molecular Biology. Cr. 2

Prereq. or coreq: BMB 7010. Modern topics in biochemistry, including nucleic acid dynamics, genomic structure, DNA replication and repair, transcription, RNA processing, translation and protein synthesis. (W)

### 7360 Advanced Structural Biology. Cr. 2

Prereq: IBS 7010 or equiv. Determination of structure and dynamics of biological molecules by NMR and crystallography; emphasis on protein structure and function. (W)

### 7670 Advanced Biochemistry Laboratory. Cr. 2-10

Advanced laboratory techniques as applied to investigations of biological materials. (T)

### 7890 Journal Club. Cr. 1 (Max. 6)

Prereq: BMB 7010 or equiv. Student presentations of papers from recent biochemistry literature; recommended for graduate students in biochemistry only. (F,W)

### 7996 Research. Cr. 1-15 (Max. 30)

(T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**  
(T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**  
Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: BMB 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BMB 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: BMB 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BMB 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: BMB 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following BMB 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in BMB 9991- BMB 9994. Offered for S and U grades only.



# Dermatology and Syphilology

Office: 18101 Oakwood Blvd., Suite 300; Dearborn; MI 313 240-4900  
Chairperson: Darius R. Mehregan  
Associate Chairperson: David A. Mehregan  
Website: <http://www.med.wayne.edu/dermatology>

## Professor

D. Ken Hashimoto (Emeritus)

## Associate Professors

Darius R. Mehregan, David A. Mehregan

## Assistant Professors

Peter J. Aronson, Laura Ganger, Karli Rosner, L. Boyd Savoy, Jennifer Swearingen, Alice Watson

## Clinical Professors

Jules Altman, Thomas A. Chapel, Syed L. Husain Hamzavi, Homayoon Rahbari, Robert J. Schoenfeld

## Clinical Associate Professors

Thomas F. Downham II, Richard J. Ferrara, Ali Moiin, Earl J. Rudner, Andrew E. Segal, Daniel M. Stewart,

## Clinical Assistant Professors

James Brown, Carl J. Cohen, Helene Dombrowski Lori Federonko, Alan Fligiel, Mohammad Ghaemi, Viktor Goncharuk, Fasahat Hamzavi, Iltefat Hamzavi, Martin Hart, Robert P. Heidelberg, Karen Heidelberg, David Iacobelli, Lawrence Krugel, Edward S. Lerchin, Nabai Hossein, Danita Peoples, Brian Sandler, Richard S. Schwartz, Tor Shwayder, Marvin D. Siegel, Usha Sood, Mark A. Stiff, Joseph A. Stutz, Antoinette Tanay, Jay Victor

## Clinical Instructors

Barry I. Auster, David Blum, Louis C. Chiara, Michael Dorman, S. Jean Kegler, Ann A. LaFond, Judith T. Lipinski, Jolanta E. Malinowski, Jeffrey M. Shuster

The instructional and research activities of this department focus on the skin as a distinct organ of the body. Specific diagnostic procedures developed in recent years such as immunopathology, and various modalities of treatment such as PUVA, UVA, Narrow band UVB, lasers and Mohs micrographic surgery, are taught in the department.

A comprehensive clinical dermatology elective is offered to third and fourth year medical students. A research elective is also available to qualified students, offering both basic and clinical research in the fields of immunobiology, molecular biology, ultrastructural analysis, photobiology and dermatopathology. The laboratory of molecular dermatology specializes in the molecular biology of malignant melanoma.

The department offers a three-year, fully accredited residency training program to candidates at the second postgraduate year level.

# Emergency Medicine

Office: 6G University Health Center; 313-993-2530

Fax: 313-993-7703

Web: <http://www.med.wayne.edu/em/index.asp>

Interim Chairperson: Brian J. O'Neil

## Professors

Cynthia Aaron, Gary S. Krause (Emeritus), Ronald L. Krome (Emeritus), Gloria J. Kuhn, Brian J. O'Neil, Karin Przyklenk, Robert D. Welch, Blaine C. White (Emeritus), Suzanne R. White, Peter Whittaker, Robert J. Zalenski

## Associate Professors

William Berk, Phillip A. Levy

## Assistant Professors

Melissa A. Barton, Leonard Bunting, H. Scott Derstine, Trifun Dimitrijevi, Bram Dolcourt, Scott Freeman, Matthew Hedge, Kerin A. Jones, Sarkis Kouyoumjian, Rita Kumar, Michelle Lall, Anthony Lagina, Philip Lewalski, Erik Olsen, Marc Rosenthal, Thomas Sanderson, Robert Sherwin, Jonathon Sullivan, Marc-Anthony Velilla, Robert P. Wahl

## Professors, Full-Time Affiliate

Brooks F. Bocka

## Clinical Professors

Nirmala B. Bhaya, Stephen R. Knazik, Richard Nowak, Emanuel Rivers, Robert A. Swor, Helene Tigchelaar, Michael Tomlanovich

## Clinical Associate Professors

Jenny G. Atas, Lydia L. Baltarowich, Don M. Benson, Antonio J. Bonfiglio, Mark W. Brautigam, Jacek R. Brudzewski, Pamela J. Claps, Robert Dunne, Jerrold R. Fisher, James M. Fox, Earl R. Hartwig, Wilma V. Henderson, Charlene B. Irvin, Raymond E. Jackson, Jeffrey J. King, William J. Lusk, Robert T. Malinowski, Gerard Martin, Kevin R. McDonald, Regina T. Noack, Patricia P. Nouhan, Ronny Otero, Anthony C. Southall, Kalavathy Srinivasan, Padraic J. Sweeny, Ross E. Tabbey, Marc Upfal, Phyllis Vallee, Nancy Z. Walter, Douglas J. Wheaton, Collette M. Wyte, Hashim M. Yar

## Clinical Assistant Professors

Victor Abuel, David Amponsa, William T. Anderson, Crystal Arthur, Nabil Bahu, Doru Bali, Sudhir Baliga, Barclay-Buchanan, Ciara, David Bedol, Rebecca Behrends, Gregory Berger, Keenn Bora, Vincent Borla, Lisa A. Braun, Bobbi Brooks, James W. Collins, Matthew Compton, Susan Corrión, Alvan R. Cruz, Minh Cruz, Alice M. Dea, Deborah Dorsett, Reginald J. Eadie, Roy C. Elrod, Enrique Enriquez, Michael Falzon, Raymond Fowkes, Jr, Audwin Garcia, Ann Marie Garritano, Nikhil Goyal, Matthew Griffin, Sudershan K. Grover, Angela Groves, Demitris Haritos, Ali Hassan, Gregory Hays, Julia Hays, Christopher Heberer, Katherine Hebert, Marion Hoelzer, Kathleen Hosmer, Henry Huitsing, Jeffrey Janowicz, Bradley Jaskulka, Pamela Jostock, Edward Kakish, Tony Kanluen, Christopher Kennedy, Nabil Khoury, Howard Klausner, Sanford Koltonow, Joseph W. Kosnik, Cynthia Lepak-Hitch, Patrick C. Loeckner, Christopher Loewe, Charlotte Logan, Marson Ma, Manu K. Malhotra, Jacob Manteuffel, Shazia Maqbool, Jennifer Martin, Wesley Martus, Joseph Miller, Kirk C. Mills, Laura Moody, Jason Moore, Daniel Morris, Usamah Mossallam, Christian Mustill, Jumana Nagarwala Kamal Nangia, , Mark Neavyn, Jeffery Nigl, , Jessica Normile, Indira Onwuzurike, Teresa Oxholm, Binesh Patel, Maheshkumar Patel, Margarita E. Pena, Karen Randall-Kristal, Michelle Rivera, Laurie Rolland, Leland Ropp, Adam Rosh, Lawrence R. Schwartz, Robert Sills, Christine Stankovic, Stephanie Stokes-Buzzelli, Vijaya Surapaneni, Robert Takla, Daniel Taylor, Ronald L. Thies, Jr., Anne Tintinalli, Glenn Tokarski, Danielle Turner-Lawrence, Peter Vajda, Taher Vohra, Bradford L. Walters, Brandon Warrick, Patricia Wilkerson-Uddyback, Keith C. Wilkinson, Andrew G. Wilson, Jr., Curt Wimmer, Deniese Worthy

## Clinical Instructors

Paul Chrobak, Victor Coba, Nisrine ElChami, Michael Kramer, Seth Krupp, Anoop Majihoo, Varsha Mendiratta, Vanessa Moraza, Kathryn Murinas, Claire Pearson, Kruti Shukla, Michelle Slezak, Larissa Traill, Alakj Varma, Cheryl Villareal, James P. Waleke, Claudia Whitaker

## Adjunct Professors

Richard Raspa

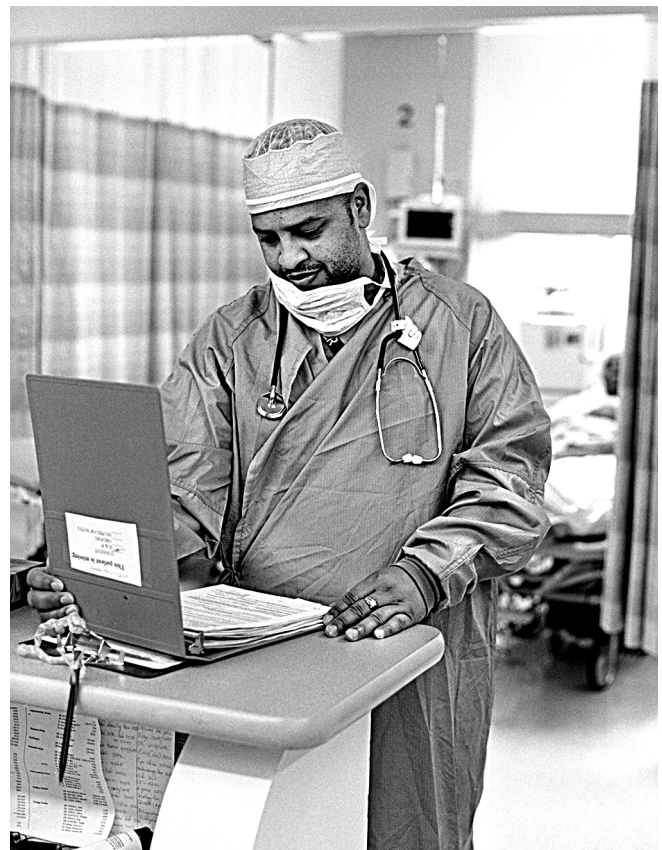
## Adjunct Assistant Professors

Scott Compton, Mary S. Grzybowski, Andrea Page

The Department of Emergency Medicine provides basic life support training and physical diagnosis instruction to M.D. Year 2 students. M.D. Year 3 students receive advanced cardiac life support training and participate in a suture laboratory to learn suture techniques. A mandatory rotation in emergency medicine for all senior students takes place at Detroit Medical Center hospitals or other affiliated hospitals. The fourth year rotation is designed to familiarize the student with: (1) the evaluation, assessment and stabilization of patients with urgent medical problems; (2) invasive and noninvasive procedures routinely used in the emergency department; and (3) management of acutely-ill patients in a timely manner.

Graduate medical education includes two three-year emergency medicine residency programs, based at the Detroit Medical Center (Detroit Receiving Hospital and Sinai-Grace Hospital). Both programs are fully accredited.

**Financial Aid:** The John Skjaerlund, M.D., Endowed Fellowship was established to support emergency medicine research by Wayne State medical students and emergency medicine residents. To apply for funding, contact: Brian O'Neil, M.D. (basic science research) or Robert Welch, M.D. (clinical research).



# Family Medicine and Public Health Sciences

Office: 3939 Woodward Avenue, 313-577-1420

Chairperson: John Boltri

## *Professors*

Joel Ager, Bengt Arnetz, David Bassett, Richard E. Gallagher, James Gutai, Hikmet Jamil, A. Victoria Neale, John Porcerelli, Maryjean Schenk, Kendra L. Schwartz, Richard K. Severson

## *Associate Professors*

Judith Arnetz, Patrick D. Bridge, Mary Dereski, Hector Gonzalez, Tsveti Markova, Dawn Misra, Linda M. Roth, Jinping Xu

## *Assistant Professors*

Juliann Binienda, James E. Blessman, Jr., Jason Booza, Kimberly Campbell-Voytal, Margit Chadwell, Tywanda Crawford-Johnson, Julie Gleason-Comstock, Nejla Israel, James Janisse, Nehman L. Lauder, Maribeth Mateo, Todd Lucas, Pierre A. Morris, Bill Murdoch, Thomas Francis Roe, Frederick C. Rosin

## *Assistant Professors, Full-Time Affiliate*

Lois Lamerato, James Meza, Sharon Milberger

## *Clinical Professors*

Peter Coggan, Adnan Hammad, Paula Kim, Paul Misch, Karen Mitchell, George Mogill, Gary Otsuji, Paul T. Werner

## *Clinical Associate Professors*

Thomas Anan, Denise Balon, Patricia Barber, John J. Bernick, William Bowman, Ray Breitenbach, George Costea, George A. Dean, Bruce Deschere, Cynthia Fisher, George Hill, Mark Holowinski, Barbara Joyce, Thomas Palmer, David Rodgers, Gary Sarafa, Susan Schooley, Jean Sinkoff, Walter J. Talamonti, Cherolee Trembath, Anthony Vettraino, Michael J. Wozniak, Scott Yaeke

## *Clinical Assistant Professors*

Antonio Aguirre, Adil Arabbo, Carol Baker, Lauren Barton, Adnan Beg, Andrew Berry, Yemisrach Beyene, Terence Bielecki, Donald Bignotti, James Boal, Raymond Bohrer, Kenneth Bollin, Richard Brown, Robert Brummeler, Joseph Bruno, Michael Carroll, John Chahbazi, Ernest Chiodo, John Connors, David Cooley, Seid Cosovic, Braswell Deen, Keith Defever, Kevin Deighton, Jeffrey Deitch, Anna Demos, Michelle Diebold, Phillip Durocher, Melody Eide, Luke Elliott, Aaron Ellis, Mohamed Elmeni, Dwight Encinas, Gary Falkenberg, Lawrence Fallat, Rafeek Farah, Diana Ferrans-Silver, Daniel Fink, Don Fitch, Evan Fonger, James Fortune, Joseph Fortuna, Fabian Fregoli, Steven Fried, Kathleen Fulgenzi, Joseph Giannola, Erika, Giordano, Michael Goldstein, Gina Gora, Miquel Granados, Thomas Graves, Fred Grose, Richard Gruz, Imran Hafeez, Jamie Hall, Kassem Hallak, Mark Halonen, Robert Hasbany, JHoma Hasnain, Fawaz Hasso, William Heckman, Nikhil Hemady, Naira Henein, Frances Hewitt, Cecelia F. Hissong, David Hollett, Eileen Hopman, James Hubbard, Ronald Hunt, Ifeyinwa Ilechuwu, Chandrikka Iyer, Sarah Jacob, Neil Jaddou, Iqbal Jan, Harsha Jayatalike, Dennis Joy, Tracy Juliano, Algridas Juocys, Steven Karageanas, Dana Kerges, Sander Kushner, Sanford Lax, Paul Lazar, Yves Leblanc, Robert Lechy, John L. Lehtinen, Mark Leider, Richard Lessens, Robert Levine, Barbara Levine-Blasé, David Lick, Robert Mackie, Donna Manczak, Abdel-Wahab Meri, Margaret Meyers, Nevena Mihailoff, Christopher Milback, Dariouche Mohammadi, Elie Mulhem, Saad Naaman,

Alberto Nacif, Farzin Namei, Mark Nugent, Idu Nwapa, Rachel O'Byrne, Natalie Okerson, Christopher J. Pabian, Michael Paletta, Veena Panthangi, Jeffrey Parcels, Mark Paschall, Angelo Patsalis, Thomas Pinson, Jatin Pithadia, Matthew Ptazkiewicz, Dennis Ramus, Jaclyn Randel, William Raue, Kathleen Rheume, Nabil Rizk, Peter Rodin, Kathleen Rollinger, Al Romero, James Rosbolt, Leonard Rosen, Marla Rowe-Gorosh, Promita Roychoudhury, Ida Rubino, Mary Rupp, Sushma Sadasivan, Jagnewar Saha, Geralyn Sarti, Barbara Saul, Tamara Schmidt, Jennifer Schneiderhan, Paul Schultz, Amy Segar, Barry Scofield, Raouf Seifeldin, Theodore Shively, Maria Shreve-Nicolai, Saima Siddiqui, Shalini Singh, Rebecca Steele, Susan Stevens, James Stewart, Zakari Tata, Larry C. Thompson, Rodrigo Tobar, Jr., Imelda Toledo-Neely, Jennifer Tucciarone, Peter Tucker, Eshel Turk, Donald Uncheselu, Robert J. Urban, Nicholas Urbanczyk, Felix Valbuena, Raghavendra Vemulapalli, Douglas Villa, David Walsworth, Kevin Wang, David Wash, Karen Weaver-Granata, Sander Weckstein, Gary Reis Weltman, Denise White-Perkins, Kimberly Winston Matthews, Gary A. Wozniak, Srikala Yedavally-Yellavi, Yue Yeng, Louinda V. Zahdeh, Kamran Zakaria, Susan Zeltzer, Gayla Zoghlin

## *Clinical Instructors*

Howard B. Schwartz, Gayla N. Zoghlin

## *Adjunct Associate Professors*

Ernest Hammel, Edward J. Kerfoot, Suzanne Mellon, Douglas Peters, Patricia West

## *Adjunct Assistant Professors*

Patricia Armstrong, Camelia Arsene, Jodie Eckleberry-Hunt, Celeste Farr, Lawrence Fischetti, Nadia R. Juzych, Todd Myers, Laila Poisson, Dana Rice, Jane R. Thomas, Anne Van Dyke

## *Adjunct Instructor*

Roger Wabeke

## Graduate Programs

*MASTER OF PUBLIC HEALTH with specializations in Public Health Practice, Quantitative Health Sciences, and Occupational and Environmental Health*

*GRADUATE CERTIFICATE in Public Health Practice*

Public health is the academic discipline that deals with the identification and solution of health problems of communities and human populations. It is a population-based study that addresses health promotion, disease prevention, restoration of health, relief of suffering, and the maintenance of health. The range and scope of the sciences and skills required in public health include epidemiology, biostatistics, research methodology, health services research, behavioral sciences, and biomedical sciences. Central to the approach of public health is a focus on community-level factors that influence health including social, economic, cultural, ethnic, and environmental factors. Public health research methods involve defining selected community problems, proposing studies and solutions, maintaining surveillance, evaluating progress, and monitoring the use of resources.

There is a strong community and public health focus in the Department, and an emphasis on research and applications of socio-behavioral and medical sciences to health problems in the community. Collaboration with other schools in the University allows for an interdisciplinary approach to study of the health care system.

The MPH Program at WSU is accredited by the Council for Education for Public Health (CEPH). The CEPH is an independent agency recognized by the US Department of Education to accredit public health programs.

## M.D. Program Education

The Department of Family Medicine and Public Health Services provides a significant amount of teaching in the Medical School curriculum. Many of the faculty, including adjunct faculty, are instructors in the Clinical Medicine Course (MS1 and MS2). Much of the instruction in this course is case-based and occurs in small groups led by physicians. Several of the sessions include interviews with 'standardized patients,' actors who have been trained to respond to student interviewers, as would a 'real' patient. Family Medicine faculty also provide primary instruction and curriculum design for the Translational Medicine course.

A required four-week third year clerkship/preceptorship is conducted by the Department. Most students are placed with private physicians or residencies in family practice located throughout the Detroit metropolitan area. Alternative placements locate students in physicians' offices in out-state Michigan, including the Upper Peninsula. This course stresses ambulatory family practice with an emphasis on skill building based in a continuity of care experience.

A number of electives are offered in the fourth year, including: additional preceptorship experiences with practicing family physicians, specially-designed experiences with family practice residency programs, geriatrics, occupational health, community medicine, and research.

Students can fulfill a required four-week subinternship in Family Medicine. During the sub-internship, students function as would a first year resident, taking night call and assisting in the care of hospitalized patients while under the supervision of attending physicians.

## Graduate Medical Education

The residency program of this department integrates academic resources, competency-based curricula, a web-based evaluation system, and the technology and supportive environment at Crittenton Hospital. Education is focused on patient-centered care and integration of biological, clinical, and behavioral sciences. The scope of practice encompasses all ages, both sexes, each organ system, every disease entity, and every venue of practice including hospitals. Crittenton Hospital has 290 beds and a medical staff of 500 physicians in 54 specialties.

The core educational experience is conducted at the Family Medicine Center on the campus of Crittenton Hospital. Residents are trained to provide a personal medical home to patients through the use of advanced information systems and service-oriented offices. The staff has implemented electronic health records, instituted interdisciplinary practice teams, conducted patient satisfaction studies and provided extensive exposure to management of practice operations. The Center qualifies graduates to provide comprehensive medical care to each member of the family. Residents are trained in over twenty clinical procedures under the supervision of the faculty.

**COMMUNITY SERVICE:** In order to carry out clinical and public health education, faculty and residents of the Department offer services to the community through the Family Medicine Centers and related institutions. Patient care functions are performed in collaboration with other health professionals such as clinical nurse specialists, clinical pharmacists, and social workers and their students. Public health students are required to complete a public health practicum, which is often service oriented and involves working with underserved populations through such entities as the local public health department or the city jail.

**RESEARCH:** Departmental research interests include studies designed to improve delivery of primary care health services at the individual, family, and community levels and to provide health promotion services which recognize the important role of the family and community in maintaining health and coping with illness. Examples of specific research projects include increasing influenza vaccine acceptance in the elderly, antibiotic use and the incidence of vulvovaginal candidiasis, patient use of the internet to identify health

resources, and the learning environment in ambulatory residency clinics. The Department also has strong ties with the cancer epidemiology program within the Karmanos Cancer Institute. Specific projects in that area include quality of life in long term survivors of cervical cancer, the interaction of luminal lipid exposure and genetic risk factors in colon cancer, genetic susceptibility to infection related cancer, methods for calculating race/ethnic cancer incidence rates, genetic polymorphisms in prostate cancer, environmental risk factors for kidney cancer, and environmental and genetic risk factors for non-Hodgkin's lymphoma. Our faculty are also involved in the Center for Urban and African American Health.

## Master of Public Health

**Admission** to the Master of Public Health (M.P.H.) Program is contingent upon admission to the Graduate School and the School of Medicine; see pages 18 and 421, respectively. Candidates must also complete undergraduate work in mathematics, natural science, and social science, and have experience in a health-related position. Contact the Department or view the webpage (<http://www.med.wayne.edu/fam/mph/>) for specific admissions requirements. Applications for the MPH program are only considered for fall semester admission. All admissions materials must be received by February 1, for a student to be considered for the following fall semester. It is strongly recommended that international students who wish to apply to the M.P.H. program submit their materials by January 1 each year to insure that they are processed in time.

**DEGREE REQUIREMENTS:** Candidates for the master's degree must complete forty-two credits in course work. Required core courses (twenty-seven credits) for the M.P.H. degree include: FPH 7010, 7015, 7100, 7210, 7230, 7240, 7250, 7320, OEH 7420. Additionally all M.P.H. students must complete, a practicum (three credits), FPH 7440, and a final research project (three credits), FPH 8990. Finally, students have the opportunity to select approved elective courses (nine credits) to complete the forty-two credit requirement. All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively. All work must be completed within six years.

**Scholarship:** A grade of 'B-minus' or lower is considered unacceptable work at the graduate level and graduate students must maintain a grade point average (g.p.a.) of 3.00 or better. Students who receive a 'B-minus' or lower grade in any core course must repeat the course and receive a 'B' or better grade. The student is not eligible to take advanced courses or earn credits toward the project or thesis until the core course deficiency is satisfied. If a student receives lower than a 'B' upon their second attempt, the student will need tutoring and ultimately repeat the course a third time. If still unsuccessful, the student will be dismissed from the program. Students will be allowed to balance a 'B-minus' or lower grade in a non-core course with an 'A-minus' or higher grade in another course, thus maintaining a 3.00 or higher overall g.p.a. However, any student who receives a 'B-minus' or lower in a course will be asked to meet with their advisor to insure that they are aware of Graduate School requirements and to determine if any remedial aid is necessary. Failure to maintain a g.p.a. of at least 3.00 after such counseling will result in dismissal from the M.P.H. program.

## Graduate Certificate in Public Health Practice

The Department offers a graduate certificate program in public health practice, which provides specialized training for individuals of varying backgrounds and experience who are committed to working in a public health related field. The course of study is designed to develop the student's capacity to apply public health theory and practice in analyzing community health problems and health care delivery services.

**Admission** to this program is contingent upon admission to the Graduate School and the School of Medicine; see pages 18 and 421,

respectively. Applications for the Graduate Certificate are considered each semester according to published deadlines (refer to the program webpage (<http://www.med.wayne.edu/fam/mph/>)). In addition, a background in a health related field is required, as is a background of course work or experience in the areas of mathematics, social science, and natural science. Students may enroll in the certificate program concurrently with a regular graduate degree program (M.S., M.A., or Ph.D.).

**CERTIFICATE REQUIREMENTS:** Candidates must complete fifteen to sixteen credits in course work. FPH 7010, 7240, 7015 and OEH 7420 (eleven credits) are required courses and additional electives (four-five credits) in the student's area of interest are to be taken to complete the requirements. Electives from an approved list may be taken within or outside the department. A grade point average of 3.00 in certificate coursework must be maintained. All work must be completed within three years.

## Financial Aid

The University offers a limited number of Graduate Professional Scholarships available to students in public health programs; for information, contact the Graduate School: 313-577-2172. The John B. Waller Award is presented annually to the outstanding graduate student in the department, upon completion of requirements.

### *Honors and Awards*

The "John B. Waller, Jr. Award" is presented annually to a student who has graduated with the M.P.H. degree and demonstrated academic excellence and commitment to the field of public health.

## GRADUATE COURSES (FPH)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7010 Seminar in Public Health. Cr. 1**

Required of all MPH students. Introduction to basic public health concepts, functions, and activities. (F)

### **7015 Biostatistics I. Cr. 3-4**

Required of all MPH students. 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. Computer laboratory included. (F)

### **7020 Biostatistics II. Cr. 3**

Prereq: FPH 7015. Required of all MPH students in Quantitative Health Sciences concentration. Statistical models for health-related fields. Analysis of variance, experimental design, linear regression, logistic regression and proportional hazards models. Topics include simple and multivariable models, model fitting procedures, model diagnostics and multiple comparisons procedures. Application of these methods to health-related data. (W)

### **7035 (C B 7600) Applied Cancer Biostatistics. Cr. 3**

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. (B)

### **7100 Health Care Organization and Administration. Cr. 3**

Required of all MPH students. 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. (S)

### **7200 Health Planning. Cr. 3**

Understanding the mechanics of health planning, implementation, and evaluation; techniques used in the planning process, role in organizational decision making, political aspects and governmental involvement. (B:F)

### **7210 Research Methods for Health Professionals. Cr. 4**

Prereq: FPH 7015 or equiv. Required of all MPH students. Logic of research design; formulation of research problems and objectives; development of hypotheses, specification of variables; sampling; random assignment; issues in measurement; data collection; sources of error; analyses. Computer laboratory included. (F)

### **7230 Health Program Evaluation. Cr. 3**

Required of all MPH students in the Public Health Practice concentration. Principles and application of program evaluation in health care fields. Design, implementation, and management of evaluations in health environments. (F)

### **7240 Epidemiology. Cr. 3**

Required of all M.S. students in Community Health Services program. Open to students in the College of Nursing, Eugene Applebaum College of Pharmacy and Health Sciences, and others. Epidemiologist's task list; research of problems without known etiology; infectious and non-infectious models; examination of current problems. (F)

### **7250 Applied Epidemiology. Cr. 3**

Prereq: FPH 7240 and FPH 7015 or equiv. Required of all MPH students in the Public Health Practice concentration. 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. (W)

### **7260 Epidemiologic Methods. Cr. 2**

Prereq: FPH 7015 and FPH 7240. Required of all students in the Quantitative Health Sciences concentration. 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. (I)

### **7300 Health Care Policy. Cr. 3**

Concepts, issues, and problems in health care policy; substantive information regarding policy formulation and content. (B:F)

### **7320 The Social Basis of Health and Health Care. Cr. 3**

Required of all MPH students. 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. (W)

### **7370 Health, Disease, and Aging. Cr. 3**

Prereq: acceptance into M.P.H. degree program or certificate in gerontology program. 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. (S)

### **7380 Gerontological Health Care. Cr. 3**

Analysis of health care delivery and utilization patterns involving older patients. Health service providers and geriatric care institutions investigated. Community services and service gaps identified. For students in health and medical care fields and those majoring in gerontology. (B:W)

### **7390 Biostatistical Methods in Epidemiology. Cr. 4**

Prereq: FPH 7020 and FPH 7260. Required of all students in the Quantitative Health Sciences concentration. Application and interpre-

tation 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. (I)

**7415 Principles of Health Care Management. Cr. 3**

Management of goals, strategy and structure in health care organizations. Managerial theory and practice; core concepts. (B:W)

**7440 Practicum in Public Health. (OEH 7440) Cr. 3**

Open only to MPH students. Required of all MPH students. Prereq: consent of advisor; completion of all other core course credits (17-18 credits); students in the Quantitative Health Sciences and Public Health Practice concentrations must also have at least six concentration course credits. 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. (T)

**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. (I)

**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. (B:W)

**7850 (SOC 7850) Seminar in Applied Gerontology. Cr. 3**

Prereq: completion of three gerontology courses and consent of instructor. Open only to students in gerontology or MPH program. No credit after S W 8810. Evaluation of applied research in gerontology from multi-disciplinary perspective. Research design, program evaluation methods, assessment of research related to multi-disciplinary facets of applied gerontology. (T)

**7860 (OEH 7860) Principles of Occupational Health. Cr. 3**

Prereq: graduate standing. 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. (F)

**7870 Occupational Health Psychology. Cr. 3**

Prereq: admission to the Graduate School. 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. (W)

**7880 Organizational Determinants of Employee Health and Productivity. Cr. 3**

Prereq: admission to Graduate School. 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. (S)

**7990 Directed Studies in Community Health Services. Cr. 1-6**

Prereq: consent of faculty member. Studies dealing with the organization and management of community health services to supplement regular course offerings. (T)

**8090 Interdisciplinary Perspectives on Addictions. Cr. 3**

Prereq: consent of instructor. This course is designed for students in the alcohol and drug studies certificate program, but is available to other students with consent of instructor. Capstone course designed to integrate content from other substance abuse courses in a multi-disciplinary context. (S)

**8990 Master's Project. Cr. 1-3 (3 req.)**

Prereq: completion of all core and concentration course work; consent of advisor; all MPH students must complete either three credits of FPH 8990 or eight credits in FPH 8999. (T)

**8999 Master's Thesis Research and Direction. Cr. 2-8 (8 req.)**

Prereq: completion of all core and concentration course work; consent of advisor; all MPH students must complete either three credits of FPH 8990 or eight credits in FPH 8999. (T)





# Immunology and Microbiology

Office: 7374 Scott Hall; 313-577-1591

Chairperson: Paul C. Montgomery

Deputy Chairperson: Alan Hudson

Website: <http://www.med.wayne.edu/immunology>

## Professors

Alan P. Hudson, Yi-chi Kong, Paul C. Montgomery, Sunil Palchaudhuri, Philip E. Pellett, Roy S. Sundick, Judith Whittum-Hudson, Fayth K. Yoshimura

## Associate Professors

Thomas C. Holland, Matthew P. Jackson, Melody N. Neely, T. R. Reddy, Harley Y. Tse

## Assistant Professor

Jeffrey Withey

## Emeriti Faculty

Dov L. Boros, Charles D. Jeffries, Maurice G. Lefford, Seymour A. Levine, Vera Fay Righthand, Robert H. Swanborg

## Professors — Joint Appointment

Linda D. Hazlett (Anatomy and Cell Biology), Joseph Kaplan (Pediatrics), Robert Lisak (Neurology), Jack D. Sobel (Internal Medicine), Wei-zen Wei (Karmanos Cancer Institute)

## Assistant Professor — Joint Appointment

Kezhong Zhang (Center for Molecular Medicine and Genetics)

## Adjunct Assistant Professors

Jeffery C. Flynn (Providence Hospital and Medical Centers), Qing-Sheng Mi (Henry Ford Health System), Ronald P. Pelley, Jenn C. Chen, Jane Peppard (Novartis Institute for Biomedical Research), Michael K. Shaw (St. John Health System)

## Associate Appointments

Joyce Benjamins (Neurology), Lawrence N. Diebel (Surgery), Paula Dore-Duffy (Neurology), Subhash Gautam (Henry Ford Health System), Scott A. Gruber (Surgery), Gloria Heppner (Division of Research), Gilda Hillman (Radiation Oncology), Stephen A. Lerner (Internal Medicine), Michael Long (Pathology), Lawrence G. Lum (Karmanos Cancer Institute), Joseph Merline (Pathology), Nancy O'Sullivan (Anatomy and Cell Biology), Venuprasad Poojary (Karmanos Cancer Institute), Samia Ragheb (Neurology), Jeffrey L. Ram (Physiology)

## Graduate Degrees

### MASTER OF SCIENCE

with a major in Immunology and Microbiology

### DOCTOR OF PHILOSOPHY

with a major in Immunology and Microbiology

The Department of Immunology and Microbiology offers diversified programs leading to the Doctor of Philosophy degree. Faculty members are actively engaged in individual and collaborative research in the areas of immunology, virology, and bacteriology. Current faculty research in immunology includes autoimmune diseases, cancer immunology, infectious diseases, lymphocyte biology, neuroimmunology, mucosal immunology, and immune regulation. Faculty research in virology includes regulation of viral gene expression at the transcriptional and translational levels, virus assembly, and innate immu-

nity to viral infections. Bacteriological research includes investigation of the molecular mechanisms of bacterial pathogenesis, regulation of bacterial gene expression during infection of eukaryotic hosts, ocular infections, drug delivery systems, and structure-function analyses of bacterial toxins. The Department consists of fourteen faculty members with primary appointments in the Department, as well as graduate students and post-doctoral fellows and administrative and technical staff. In addition, affiliated faculty in other School of Medicine departments as well as Detroit Medical Center, Henry Ford Health System, Providence Hospital, St. John Health System and the Karmanos Cancer Institute participate in departmental activities.

## Doctor of Philosophy and Master of Science Degrees

**Admission** to these programs is contingent upon admission to the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421). Additionally, applicants are expected to meet the requirements of the Department: students must have an undergraduate degree and a minimum grade point average of 3.0 to apply. An interview with the Graduate Officer or designated representative is desirable. The Graduate Record Examination aptitude test is required. Foreign students must be proficient in English as determined by satisfactory performance on the standardized TOEFL English proficiency examination.

**Scholarship:** All course work in the programs must be completed in accordance with the regulations of the Graduate School, the School of Medicine, and the Department of Immunology and Microbiology governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

### MASTER OF SCIENCE REQUIREMENTS

Candidates must complete a minimum of thirty-three credits in course work and research in accordance with Plan A, as outlined in this bulletin; see page 36. Required courses include BMB 7010 (General Biochemistry) or MBG 7010 (Molecular Biology and Genetics), IM 7040 (Fundamentals of Research), IM 7010 (Fundamentals of Immunology), IM 7030 (Molecular Biology of Viruses), IM 7520 (Molecular Mechanisms of Bacterial Pathogenesis), IM 7060 (Lab Research), I M 7850 (Research conference), and IM 7890 (Seminar). Additional information on the Immunology and Microbiology Master of Science program is available on the department website: <http://www.med.wayne.edu/immunology/>.

### DOCTOR OF PHILOSOPHY REQUIREMENTS

Students in the Immunology and Microbiology Department enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The IBS curriculum includes IBS 7010, Biomedical Molecular Biology (five credits) and IBS 7020, Biomedical Cell Biology (five credits). It also includes selection by the student in conjunction with the Departmental Graduate Officer of courses within the IBS Systems curriculum, including IBS 7090, Biomedical Immunology (two credits) and selections from other IBS Systems courses. In addition, students enroll in I M 7030, Molecular Biology of Viruses (two credits) and I M 7520, Mechanisms of Bacterial Pathogenesis (two credits). Candidates for the doctoral degree must complete ninety credits beyond the bachelor's degree, including thirty credits in doctoral dissertation direction. The thirty-credit dissertation requirement is fulfilled by registering for I M 9991, 9992, 9993 and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. For information regarding distribution of credits among major and minor requirements, consult the department.

## Assistantships and Research

Assistantships for Ph.D. students are available through the IBS program on a competitive basis. All students accepted into the Doctor of Philosophy degree program are considered for financial assistance and no application forms are necessary for this purpose. All students,

whether or not they hold a fellowship or an assistantship, are encouraged to assist the graduate faculty in teaching and research activities as a component of their educational experience. Assistantships and fellowships are generally not available for M.S. students. For more information on financial assistance, students should consult or write the Graduate Officer, Department of Immunology and Microbiology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201.

## GRADUATE COURSES (I M)

The following courses, numbered 7000-9995, are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7010 Fundamentals of Immunology. Cr. 2**

Prereq: BMB 7010 or equiv.; consent of instructor. Basic concepts and current developments in immunology, including cellular and molecular aspects, regulation, and immunopathological mechanisms. (W)

### **7020 Fundamentals of Microbiology. Cr. 3**

Prereq: CHM 2260 and BIO 2200, or equivalents. Basic aspects of bacteriology, genetics and mycology. (F)

### **7030 Molecular Biology of Viruses. Cr. 2**

Prereq: graduate-level (or upper-level undergraduate level) course in molecular and/or cell biology and/or biochemistry. Basic principles of virology including virus host interactions and the molecular biology of virus multiplication and genetics. (W)

### **7040 Fundamentals of Research. Cr. 2**

Prereq: Consent of instructor. (F)

### **7050 Bioterrorism. Cr. 1**

Prereq: I M 7020 or equiv. Lecture and discussion of pathogenic microbes and how their use in bioterrorism may be countered. (I)

### **7060 Lab Research. Cr.2**

Coreq: IM 7040. Laboratory research course open to student pursuing the M.S. in Immunology degree.

### **7410 T Cell Biology and Cancer Immunotherapy. (C B 7410) Cr. 3**

Offered for S and U grades only. Prereq: IBS 7090 or equiv; consent of coordinator. 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, T cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion for 11 weeks. Each weekly discussion slot is coordinated with the previous lecture topic and is designed for student participation in the form of presentation and discussion of current journal articles. Students are also required to prepare a 5-page research proposal based on NIH format on any topic in the course and to present the proposal to the whole class in the 12th and 13th week. The proposal will be due in the 15th week and peer-reviewed in the 16th week. (B:W)

### **7450 Current Trends in Immunology, Microbiology and Virology. Cr. 1-5**

Prereq: consent of instructor. Offered for S and U grades only. Lectures and discussions on current literature and research problems. (I)

### **7520 Molecular Mechanisms of Bacterial Pathogenesis. Cr. 2**

Prereq: consent of instructor. 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. (W)

### **7650 Current Trends in Immunology. Cr. 1-5**

Prereq: consent of instructor. Offered for S and U grades only. Recent research topics. (I)

### **7850 Research Conferences in Immunology and Microbiology. Cr. 1-5 (Max. 20)**

Offered for S and U grades only. Open only to Immunology and Microbiology students. Seminars and discussions in selected areas. (T)

### **7890 Seminar. Cr. 1**

Offered for S and U grades only. Open only to Immunology and Microbiology students. (T)

### **7996 Research. Cr. 1-8 (Max. 25)**

Offered for S and U grades only. (T)

### **8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

(T)

### **9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### **9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

### **9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: I M 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following I M 9991. Offered for S and U grades only.

### **9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: I M 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following I M 9992. Offered for S and U grades only.

### **9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: I M 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following I M 9993. Offered for S and U grades only.

### **9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in I M 9991- I M 9994. Offered for S and U grades only.

# Internal Medicine

Office: 2E University Health Center; 745-8244  
Interim Chairperson: John M. Flack

## Professors

Abdul B. Abou-Samra, Judith Abrams-KCI, George Alangaden, Ayad M. Al-Katib, Judith Andersen, Lois Ayash, M. Safwan Badr, Nandalal Bagchi, Carter R. Bishop, Robert C. Burack, Lavoisier J. Cardozo, Murray N. Ehrinpreis, Pranatharthi H. Chandrasekar, Ben Dien-Ming Chen, Lawrence R. Crane, Felix R. Fernandez-Madrid, John M. Flack, Lawrence E. Flaherty, Eugene A. Gelzayd, Lance K. Heilbrun-KCI, Glenn W. Kaatz, Nicholas Kerin, Omer Kucuk, Stephen A. Lerner, Donald P. Levine, Patricia M. LoRusso, Lawrence Lum, Rodger D. MacArthur, Michael Maddens Adhip N. Majumdar, Michael Massinari, Stephen D. Migdal, Richard E. Miller, Ramzi M. Mohammad, Milton G. Mutchnick Ananda S. Prasad, Philip A. Philip, Voravit Ratanatharathorn, Milagros P. Reyes, Noreen F. Rossi, Melissa Runge-Morris, Charles A. Schiffer, Anthony F. Shields-KCI, Michael S. Simon, Jack D. Sobel, David Wayne Stockton, Paul S. Swerdlow, Liborio Tranchida, Joseph Uberti, Vainutis K. Vaitkevicius, Manuel Valdivieso, Antoinette J. Wozniak, Ernest Yoder.

## Clinical Professors

Elle Aboulafia, Leonard C. Alexander, Muhyi Al-Sarraf, A. Robert Arnstein, Jeffrey Band, Joseph J. Bander, Neil A. Basmaji, Anatole Besarab, Gary G. Bill, Timothy A. Brennan, Charles P. Craig, Stephen P. D'Addario, David Decker, Vilma Drelichman, Michael C. Duffy, Francis Dumler, Wolf F. Duvernoy, Marc Feldman, James J. Glazier, Gerald I. Gohen, Kevin J. Grady, George Grunberger, John Haapaniemi, Michael Harbut, David Hudge, Christopher Hughes, Franklin E. Hull, Samuel D. Indenbaum, Riad Khatib, Konstantinos Kpordelis, Thomas LaFonte, Carl B. Lauter, Robert Leonard, Giuseppe Leone, A. Martin Lerner, Melvin Lester, Robert Levine, Joseph Levy, Charles P. Lucas, Luis Maas, Norman Markowski, Sami Mounayer, John O'Brien, Thomas Pisko, Steven Portney, Pritpal S. Puri, Korembeth Ravikrishnan, Michael Romanelli, Hershel Sandberg, Joel Seidman, Mohamed Siddique, Michael R. Simon (Emeritus), Manuel Sklar, Laurence Stanick, Clarence B. Vaughan, Francis M. Wilson, Jerry Yee.

## Adjunct Professor

Michael J. Rybak

## Associate Professors

Muneer H. Abidi, Daoud K. Abu-Hamdan, Luis Afonso, Nelia M. Afonso, Patricia D. Brown, Pravit Cadnapaphornchai, Antonio P. Carrillo, Jonathan A. Cohn, Elisabeth I. Heath, Dana G. Kissner, Willane S. Krell, Diane Levine, Li Li, Florence Prigent, Sanjay Revankar, James Rowley, Linea L. Rydstedt, James H. Sondheimer, Ayman Soubani, Joel Steinberg, Ulka N. Vaishampayan, Jeffrey Zonder.

## Clinical Associate Professors

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Randal W. Rowland

## Associate Professor Emeritus

Saul Rosenzweig

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## Clinical Assistant Professors

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Soh, Sandeep Soman, Freddy R. Sosa, Lisa B. Speck, Michael E. Stachecki, Lisa Stagner, Laurence E. Stawick, Russdell T. Steinman, Genevieve Stewart, Richard M. Stober, Sheldon S. Stoffer, Komol Surakomol, Cesar A. Sturla, Jane Syriac, Jennifer L. Swiderek, Balazs Szamosfalvi, John J. Szela, Geneva Tatem, Moehanid Talia, Farheen Tariq, Donald Taylor, Evan Theoharis, LaShawn Therrell, Rama Thyagarajan, Timothy J. Tinefti, Rabih Touma, Archie Trivedi, Matteo Valenti, Robert J. Veneri, Rudy J. Vervaeke, Robert J. Veneri, William Ventimiglia, Theresa Vettese, Sari A. Vlahakis, Marvin H. Waldman, Kimberly Wallace, John Watt, Arthur T. Waytes, Nabil K. Wehbe, Bruce West, Jeremiah Whittington, Allison J. Winmann, David Weissman, Steven Widlansky, Sheila M. Wilhelm, Todd S. Wilkinson, Laura Williams, Michael Williams, Sheryl A. Wissman, Theodore A. Wizenberg, Mamie Wong-Lim, Oliver Wong, George S. Yacoub, Samir R. Yahia, Jeffrey P. Yanez, Sung K. Yang, Virginia J. Zacharias, Mark A. Zainea, Khalid Zakariya, Saeed K. Zanjani, Jamal Zarghami, Jonathan W. Zimmerman, Marcel Zughaib.

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#### *Professors, Full-Time Affiliate*

Moshin Alam, Kenneth L. Bergsman, Basim Dubaybo, John Ebright, Mark B. Edelstein, Michael Serle Eichenhorn, Joseph A. Fontana, Julius M. Gardin, Jalal Ghali, Sidney Goldstein, Stephen J. Gunther, Mark A. Kelley, Michael Kleerekoper, Paul A. Kvale, John T. Popovich, Steven Rabinow, Howard S. Rosman, Hani N. Sabbah, Louis D. Saravolatz, Theodore Schreiber, Claudio D. Schuger, Paul Stein, Jose Vazquez, Douglas W. Weaver.

#### *Associate Professors, Full-Time Affiliate*

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#### *Assistant Professors, Full-Time Affiliate*

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Richard VanderHeide, George Varghese, Peter Y. Watson, Richard Weber, Sheryl A. Wissman, Michael Yacoub, Abbas Zagnoon, Edward M. Zoratti.

#### *Instructors, Full-Time Affiliate*

Anthony Clarke, Doris Fleming, Cheryl K. Nordstrom, Ramesh Padiyar, Moehamid Talia

The major objective of the educational program in internal medicine is to establish a firm conceptual basis for clinical diagnosis and treatment of disease. The exposure to clinical disciplines is graduated throughout each M.D. four year curriculum. During the early years in the M.D. program emphasis is placed on the application of knowledge gained in the basic science courses to an understanding of the biological disorders which accompany human disease. In M.D. Year I, students work with the Department of Internal Medicine through participation in several clinical conferences. During M.D. Year II, the student's attention is directed toward the study of pathophysiologic mechanisms of disease, the principles of clinical diagnosis and the scientific basis of therapeutics. An internal medicine forum is available for students interested in internal medicine as a career. In M.D. Year III and IV emphasis is placed on the student's direct participation in patient care as a member of the health-care team. In Year III the student gains clinical experience through assignment to Wayne State University teaching hospitals; this insures acquaintance with several members of the faculty and to a wide spectrum of medical problems. During Year IV, the student spends a month as an acting intern and a month in an outpatient clinic to gain experience with ambulatory medicine. Elective courses in subspecialties are offered. Students may also choose to pursue laboratory investigative programs under the tutelage of members of the faculty. In addition to formal course work, the student may elect more intensive study as a student-fellow in either clinical or laboratory medicine during the summer recesses. With the expansion of the Internal Medicine faculty, a number of research experiences supported by a variety of national funding agencies are available.



# Neurological Surgery

*Office:* 6E University Health Center; 745-4523

*Chairperson:* Murali Guthikonda

*Website:* <http://www.med.wayne.edu/neurosurgery/>

#### *Professors*

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#### *Professor Emeritus*

L. Murray Thomas

#### *Associate Professors*

William Coplin, Yuchuan Ding, Sandeep Sood

#### *Assistant Professors*

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#### *Clinical Professors*

Manuel Dujovny

#### *Clinical Associate Professors*

Andrew E. Sloan

#### *Clinical Assistant Professors*

Robert R. Johnson II, Quing Hang Li

#### *Associates*

Anders Sima (Neuropathology)

The Department of Neurological Surgery has the goal of acquainting the undergraduate medical student with the problems, both diagnostic and therapeutic, in the field of neurological surgery. This is accomplished by close affiliation with and participation in the neurosciences core curriculum of the freshman and sophomore years. Lectures, conferences and ward rounds are included in this teaching program. In the third year neurology teaching program the Department curricula emphasizes the surgical aspects of neurology. Third year students are made aware of problems best handled by neurosurgical techniques during their trauma and emergency surgery rotation. Fourth year students seeking further study of neurosurgical techniques may elect programs in clinical neurological surgery and in experimental treatment of head injury cases. Detroit Receiving Hospital, Harper University Hospital, Sinai-Grace Hospital, and Children's Hospital of Michigan are the primary clinical facilities for undergraduate instruction by this department.

A seven-year residency training program, (includes one year of research in the laboratory or an enfolded clinical fellowship) in neurological surgery is conducted by the Department and based at the following University-affiliated hospitals: Detroit Receiving, Harper University, and Children's. The research interests of the department are concentrated primarily in the neurological mechanisms involved in ischemic stroke, brain tumors, stereotactic and computer-assisted surgery, neurooncology, skull base surgery, aneurysms and AVM clinical studies, craniofacial anomalies, and hydrocephalus. The Department of Neurological Surgery operates a microsurgical laboratory for residents and participants in ongoing research projects who require training in microsurgical techniques and microsurgical anatomy. The residents also participate actively in tumor research at Karmanos Cancer Institute.

# Neurology

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Interim Chairperson: Omar A. Khan

## Professors

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## Adjunct Associate Professors

Bradley N. Axelrod

## Assistant Professors

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## Clinical Assistant Professors

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## Adjunct Assistant Professor

Margaret Greenwald

## Clinical Instructors

David Lustig, Saleem Tahir

## Associates

Leon Carlock (Molecular Medicine and Genetics), Diane Chugani (Pediatrics), Jose Rafols (Anatomy), Robert Skoff (Anatomy), Harley Y. Tse (Immunology and Microbiology)

## M.D. Program Education

The Department of Neurology provides instruction in the first, second, third and fourth years of the medical curriculum. Members participate in the first year basic neuroscience course. In the second year the department is responsible for the clinical neuroscience-neurology course, which emphasizes pathophysiology. During the third year, all students rotate for four weeks through the neurology unit at one of the University-affiliated hospitals, at which time the students receive bedside and outpatient teaching and are given responsibili-

ties in patient management. Clinical electives for students who have completed the required courses are available for interested students.

## Post-Graduate Education

The Wayne State University Neurology Residency Training Program is a fully-accredited program located at the Detroit Medical Center and the Veterans Administration Hospital. The department offers a three-year training program for candidates applying for second year post-graduate level of training. Post-residency fellowships are also available in neuromuscular diseases/EMG, epilepsy/EEG, neurocritical care, multiple sclerosis/neuroimmunology, stroke, clinical neurophysiology, movement disorders and sleep disorders.

## Research Electives

Research electives for medical students are available, either in brief summer rotations or for longer periods taken during elective time. Interested students are encouraged to contact the Department of Neurology.



# Obstetrics and Gynecology

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## Professors

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## Associate Professors

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## Assistant Professors

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## Clinical Professors

Stanley Berry, Federico Mariona, John Musich, Alfred I. Sherman, Ronald Strickler

## Clinical Associate Professors

Slaeh Adel, Charla Blacker, Christine Comstock, Merlin Ekstrom, William Floyd, Gregory Goyert, Janet Hankin, Roger H. Hertz, WooShin Kim, Wesley Lee, Robert P. Lorenz, David M. Magyar, John M. Malone, Brian Mason, Paul C. Nehra, Michael Prysak, Adel Saleh, Johnathan Song, Iris Taylor

## Clinical Assistant Professors

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## Clinical Instructors

Zaid Al-Wahab, Ronald E. Cheek, Chin-Shuh Chen, Melinda Gibson, David I. Lipschutz, Franklyn E. Seabrooks, Seymour Ziegelman

## Fellows

Mazen Abdallah, Zeynep Alpay-Savasan, Awoniyi Awongua, Christopher Bryant, Tinnakorn Chaiworapongsa, Neil Hamill, Cristiano Jodicke, Ichchha Madan, Shali Mazaki-Tovi, Chia-Ling Nhan-Chang, Assad Semaan, Shelly Seward, Jay P. Shah, Agnieszka Vay, Terri Woodard

The discipline of obstetrics and gynecology is concerned with the reproductive health of women. This concept implies knowledge that extends from embryology through gerontology. A prime objective of the Department of Obstetrics and Gynecology is to present, and to add to, the current knowledge of the normal physiology and pathology of reproduction.

Major teaching and research efforts in the Department focus on several subspecialty areas including maternal-fetal medicine, gynecologic oncology, reproductive endocrinology/infertility, and reproductive genetics. In addition, emphasis is placed on family planning and contraceptive technology, sonographic imaging, psychosexual issues, and computer applications in treatment, diagnosis, and research. The faculty integrates basic science and clinical research into clinical practice.

Medical students gain clinical experience in obstetrics and gynecology in Detroit Medical Center Hospitals: Hutzel Women's Hospital and Sinai-Grace, in addition to other affiliated hospitals: William Beaumont, Oakwood, Providence, St. John's, and Henry Ford. The third year clerkship includes an extensive didactic course, as well as in-depth clinical experience. Further, clinical and research opportunities are available in all subspecialty areas during senior elective periods. Summer student research fellowships are available, both in clinical research within the Department, and in basic research at the C.S. Mott Center for Human Growth and Development, where the Department's basic science laboratories are located.

## Doctor of Philosophy with a Major in Physiology and a Concentration in Reproductive Sciences

The Department of Obstetrics and Gynecology collaborates with the Department of Physiology in offering the Reproductive Sciences concentration within the Ph.D. program of the Department of Physiology and, in conjunction with that department, offers broad and interdisciplinary training in the reproductive sciences. Students pursuing this concentration are accepted into the Department of Physiology graduate program, but their curriculum is oriented around courses in the reproductive sciences taught primarily by Obstetrics and Gynecology graduate teaching faculty. Students taking the Reproductive Sciences concentration will select dissertation mentors from the Obstetrics and Gynecology graduate teaching faculty and perform their dissertation research in the basic science facilities of the Department of Obstetrics and Gynecology.

The goal of the program is to educate students to become well-qualified, knowledgeable reproductive scientists who will make substantial contributions to strengthen and advance the field of reproductive medicine and health. This is a unique program, regionally and nationally, that exposes the trainee to both basic science and clinical research, and emphasizes major topics within the reproductive field including fertilization, developmental biology, genetics, molecular biology, endocrinology, toxicology, teratology, pregnancy and infectious disease. The curriculum, while emphasizing both formal lecture and seminar style courses, also takes advantage of numerous other educational activities occurring within the Departments of Obstetrics/Gynecology and Physiology such as guest lecturers, journal clubs, workshops and symposia. The Department of Obstetrics and Gynecology and the Department of Physiology attempt to pattern each student's program according to their particular area of interest and research requirements while at the same time exposing them to the diversity within this discipline.

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421). Applicants must have an undergraduate degree from an accredited college or university, a strong background in the biological or chemical sciences and a minimum grade point average of 3.0. Three letters of recommendation from professionals able to judge the student's scientific potential, a per-

sonal statement and results from the Graduate Record Examination are required. An interview with the Graduate Officer or designated representative is also required, if feasible. International students must be proficient in English as determined by satisfactory performance on the standardized TOEFL English proficiency examination.

**Scholarship:** All course work in the program must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**Degree Requirements:** Applicants for the Doctor of Philosophy degree must complete a minimum of ninety credits beyond the bachelor's degree, of which at least thirty credits must be in doctoral research and dissertation direction. For the remaining sixty credits, ten must be from courses within the Reproductive Sciences concentration and six from multidisciplinary courses other than Physiology (minor). Ph.D. students holding School of Medicine IBS (Interdisciplinary Biomedical Sciences). Fellowships are required to take fourteen of these credits from courses in the IBS curriculum. Remaining credits to obtain the required total are taken as electives in subjects pertinent to the student's chosen field of research. Requirements of the Department of Physiology Graduate Program must also be satisfied.

**Assistantships and Research:** Assistantships are available through the School of Medicine and the department of Physiology on a competitive basis. All students accepted into the graduate degree program are considered for financial assistance and no application forms are necessary for this purpose. Students on assistantships are advised to elect no more than ten credits in a given semester. All students, whether or not they hold a fellowship or an assistantship, must assist the graduate faculty in teaching and research activities as a component of their educational experience.

For additional information on this Graduate Program concentrating in the Reproductive Sciences, students should contact either:

- 1) the Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Graduate Program, C.S. Mott Center for Human Growth and Development, 275 E. Hancock Avenue, Detroit, MI 48201 (e-mail: RPSgradprogram@med.wayne.edu) or visit the departmental website at <http://obgyn.med.wayne.edu/>; or <http://reprosciencsatwayne.com>; or
- 2) the Department of Physiology website at <http://physiology.med.wayne.edu/phd-physiology-rs/>.

## GRADUATE COURSE (OBG)

The following course is offered for graduate credit only. For interpretation of numbering system, signs and abbreviations, see page 652.

### 7500 Statistics, Epidemiology, and Study Design. Cr. 3

Prereq: consent of instructor, postgraduate medical education. Knowledge of epidemiology and statistical methods used to design and interpret research. (Y)

# Oncology

*Office:* KCI Prentis Building, 110 E. Warren Avenue, Room 2215; 313-577-1065

*Program Director:* Larry H. Matherly

*Website:* <http://cancerbiologyprogram.med.wayne.edu/>

## Professors

Judith Abrams, Gerold Bepler, Michael Cher, Q. Ping Dou, Joseph Fontana, Rafael Fridman, David Gorski, Miriam Greenberg, Ahmad Heydari, Gilda Gali Hillman, Ken Honn, Michael Joiner, David Kessel, Hyeong-Reh Kim, Lawrence Lum, Larry Matherly, Ramzi Mohammad, Avraham Raz, John Reiners, Arun Rishi, Melissa Runge-Morris, Fazul Sarkar, Ann Schwartz, Shijie Sheng, Anthony Shields, Bonnie Sloane, Michael Tainsky, Jeffrey Taub, Wei-Zen Wei, Fayth Yoshimura

## Associate Professors

R. Daniel Bonfil, George Brush, Michele Cote, Thomas Kocarek, Raymond Mattingly, Sandra Rempel, Malathy Shekhar, Debra Skafar, Gen Sheng Wu, Hai-Young Wu, Youming Xie

## Assistant Professors

Jennifer Beebe Dimmer, Julie Boerner, Wei Chen, Sreenivasa Chinni, Neb Duric, Yubin Ge, Jing Li, Karin List, Izabela Podgorski, Venuprasad Poojary, Sokol Todi, Guojun Wu, Zeng-Quan Yang, Steven Zielske

Historically, researchers involved in cancer biology research have focused on a particular field in biology or medicine relating to alterations in fundamental biological processes that result in malignancy, progression to fatal metastatic disease, or success or failure of therapy. However, continued advances in cancer diagnosis and treatment require scientists to have a greater specialization in the biology of cancer while, at the same time, exposure to a host of disciplines, ranging from biochemistry to cell biology and immunology, and to state-of-the-art cell biology and molecular biology methods. Pursuant to addressing this circumstance, the Cancer Biology Graduate Program at the Wayne State University School of Medicine and the Barbara Ann Karmanos Cancer Institute is dedicated to providing an outstanding training experience in the rapidly evolving field of cancer research. Our philosophy is that to train the next generation of cancer researchers requires a strong interdisciplinary graduate curriculum with a major focus on the biology of cancer, and opportunities to regularly interact with clinicians engaged in cancer diagnosis and treatment. The goal is to develop scientists with capacities for critical scientific thinking needed to conduct original research as independent cancer investigators. The Ph.D. program consists of formal course work which provides a comprehensive education in the basic concepts, along with solid training in the core disciplines that serve contemporary cancer research. Graduates gain a broad understanding of the fundamental principles that underlie this diverse and dynamic field with in-depth knowledge in their dissertation discipline. An integral part of the training experience involves opportunities to develop written and oral communication skills essential to future success as a cancer researcher.

## Master of Science and Doctor of Philosophy with a Major in Cancer Biology

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and the graduate programs in the School of Medicine (see page 421). Applicants to this program should have a background in one of the chemical or biological sciences; applicants with other backgrounds will be considered for admission depending on their competence related to specific areas of interest within the program. Admission is based on previous academic accomplishments, as documented by a transcript of a degree



in progress or a posted official transcript of a completed degree. A minimum 3.0 grade point average is required although students typically have averages well in excess of this minimum. Graduate Record Examination scores, a statement of purpose, recommendations and a personal interview are required for admission. Applicants with previous research experience are strongly encouraged to apply and a description of their research experience should be provided. International students must be proficient in English, as determined by satisfactory performance on the TOEFL English proficiency examination.

### DOCTOR OF PHILOSOPHY REQUIREMENTS

An applicant for the Doctor of Philosophy degree must satisfactorily complete at least ninety credits, including thirty dissertation research credits in C B 9991, 9992, 9993, and 9994 during consecutive semesters. All course work and requirements must be completed in accordance with the regulations of the Graduate School, the School of Medicine, and the Program governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively. For information regarding distribution of credits among major and minor requirements, consult the department.

### MASTER OF SCIENCE REQUIREMENTS

The Master of Science with a major in Cancer Biology is intended to make it possible to award a degree to students who enter the Ph.D. program, complete a sufficient amount of coursework and research, but who decide to leave the program prior to completion of the doctorate. In addition, under special circumstances, it may be appropriate to admit graduate students for a terminal Master's Degree in Cancer Biology.

**Curriculum:** Students in the Cancer Biology Graduate Program enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The IBS curriculum includes IBS 7010, Biomedical Molecular Biology (five credits) and IBS 7020, Biomedical Cell Biology (five credits). It also includes selection by the student in conjunction with the Departmental Graduate Officer of courses within the IBS Systems curriculum. In addition, students enroll in C B 7210, Fundamentals of Cancer Biology (3 credits), and C B 7990, Advanced Topics in Cancer Biology (1 credit).

The graduate education of each cancer biology student is tailored to his/her specific interests and research requirements. Previous educational experience is recognized so as to permit the student to progress as rapidly as possible. Since the program requires a broad understanding of cancer biology, a core curriculum is required including thirty-four credits from the following:

#### *Required Core Courses and Research*

- BMS 6010 - Responsible Conduct in Biomedical Research: Cr. 1
- C B 7130 -- Clinical Aspects of Cancer Biology: Cr. 1
- C B 7210 -- Fundamentals of Cancer Biology: Cr. 3
- C B 7700 -- Recent Developments in Cancer Biology (Journal Club): Cr. 1 (6 req.)
- C B 7710 -- Individual Studies in Cancer Biology (rotation): Cr. 1-5 (3 req.)
- C B 7890 -- Seminar: Cr. 1 (6 req.)
- C B 7990 -- Advanced Topics in Cancer Biology: Cr. 1
- IBS 7010 -- Biomedical Molecular Biology: Cr. 5
- IBS 7020 -- Biomedical Cell Biology: Cr. 5
- Two Biomedical Electives: Cr. 2 (each)

#### *Elective Courses (up to 11 credits)*

In addition to the required courses, students choose up to eleven credits providing the sufficient total in required coursework. Cancer Biology electives for this purpose are:

- C B 7220 -- Molecular Biology of Cancer Development: Cr. 3
- C B 7240 -- Principles of Cancer Chemotherapy: Cr. 2
- C B 7300 -- Special Topics in Cancer Biology: Cr. 1-3
- C B 7430 -- Cancer Epidemiology: Cr. 2
- C B 7460 -- Mechanisms of Neoplasia-Signaling: Cr. 3
- C B 7600 -- Applied Cancer Biostatistics: Cr. 2

A number of other courses are available to allow students to specialize in a specific research discipline and may be chosen in consultation with the student advisor.

During the second year of study, students submit a "Plan of Work" which documents the academic curriculum leading to the Ph.D. It is expected that the majority of the didactic course work will be completed during the first and second years of Ph.D. study. A written comprehensive qualifying exam is administered in the late spring of the first year of study, followed by an oral comprehensive exam of the proposed dissertation research. Ph.D. candidacy is conferred upon successful completion of the oral comprehensive exam. During the summer of the first year, a month-long clinical rotation is required (C B 7130) during which graduate students "round" with oncologists treating cancer patients in the Karmanos Cancer Hospital. The third and subsequent years are primarily devoted to dissertation research. Forty-five credits of general research, including thirty credits of dissertation research during consecutive semesters (see below), will complete the Graduate School requirements for the Ph.D. degree.

#### *Dissertation Research*

To complete the Ph.D. students must successfully defend the dissertation research and complete a publishable research project under the guidance of a faculty mentor. The courses required for dissertation matriculation are:

- C B 9991 -- Doctoral Candidate Status I: Cr. 7.5
- C B 9992 -- Doctoral Candidate Status II: Cr. 7.5
- C B 9993 -- Doctoral Candidate Status III: Cr. 7.5
- C B 9994 -- Doctoral Candidate Status IV: Cr. 7.5

In addition to traditional classroom learning, there are many additional educational opportunities available to our students including seminars by nationally/internationally renowned scientists both within and outside the cancer center, special non-credit courses, fellowship and grant writing, and research workshops and symposia.

**RESEARCH:** Outside of the required coursework and written and oral comprehensive exams, the bulk of Ph.D. study involves independent laboratory- or population-based research leading to results of publishable caliber. The cancer biology graduate program offers research opportunities with outstanding faculty in many areas of contemporary cancer biology including cancer therapeutics, metastasis, tumor microenvironment, breast cancer biology, carcinogenesis, cancer genetics, population studies, and cancer immunology. Dissertation research mentors are selected based on students' research interests and the research rotation experiences. Typically, students complete up to three laboratory research rotations in the laboratories of prospective-Ph.D. mentors during the first year of study (one in each semester), after which he/she chooses a dissertation mentor. Since scientific research is open-ended, the amount of time required for completion of a defensible dissertation leading to the Ph.D. cannot be predicted, although typically the Ph.D. degree is conferred within four to five years. A written dissertation and a final oral defense of the dissertation research by the Dissertation Research Committee are requirements for conferring the Ph.D. degree in Cancer Biology. There is a requirement of first-author status on a publication based on the dissertation research for the Ph.D. degree.

**FINANCIAL SUPPORT:** All students accepted into the program are considered for financial assistance; a specific application is not necessary. Students receiving assistantships are advised to take no more than ten credits per semester. Financial support for the training program in Cancer Biology is derived from University fellowships, traineeships supported by a training grant from the National Cancer Institute, faculty grants, and individual graduate fellowships. For complete information on the Ph.D. program in Cancer Biology, students should contact the Cancer Biology Graduate Program, Department of Oncology, Karmanos Cancer Institute, 110 East Warren Ave., Suite 2215, Detroit, Michigan 48201.

## Clinical Translational Science and Cancer Biology: Dual Title Degree

Cancer Biology Ph.D. students, by the end of the first year of their program, may submit a written request to the Cancer Biology Graduate Program Director to add Clinical and Translational Science (CTS) to their curriculum and thus earn a dual title degree in the two fields. Interested students should apply to the graduate program admissions committee by submitting a letter of application including: 1) a statement of his/her interest in CTS; 2) a description of his/her CTS-related coursework and research; and, 3) a description of the program area he/she intends to pursue and how the CTS dual title program will be incorporated to facilitate and enhance the research. The graduate program admissions committee will include a program faculty member with research interests in CTS or a faculty member from the CTS department.

After the student has been admitted to the dual title program, the Cancer Biology Graduate Program Director will assist in identifying an appropriate faculty mentor who will work with the student to develop a Plan of Work, find a research focus incorporating CTS, and identify a dissertation advisory committee that includes faculty with CTS interests. The Graduate Director will assure that all dual-title degree requirements are met.

**Curriculum Requirements:** The Clinical and Translational Science curriculum consists of a minimum of fifteen credits. A dual title student must enroll in the Clinical and Translational Science curriculum outlined below:

- BMS 6010 -- Responsible Conduct in Biomedical Research: Cr. 1  
(Also required by Cancer Biology)
- C B 7130 -- Clinical Aspects of Cancer Biology: Cr. 1  
(will be taken twice for a total of 2 credits to substitute for MDR 7110).
- FPH 7015 -- Biostatistics I: Cr. 4
- FPH 7240 -- Epidemiology: Cr. 3
- MDR 7090 -- Fellowship Writing: Cr. 2
- MDR 7100 -- Clinical Research Design: Cr. 2
- MDR 7110 -- Bench to Beside/Clinical Field Experience: Cr. 2
- MDR 7120 -- Clinical and Translational Colloquium: Cr. 1

Cancer Biology Ph.D. students in the CTS dual title program are waived from fulfilling the Graduate School's Ph.D. requirement for a minor.

## Graduate Courses (C B)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 7130 Clinical Aspects of Cancer Biology. Cr. 1

Open only to cancer biology majors. Cancer Biology Ph.D. students accompany clinicians during rounds in hospital and outpatient clinics, as well as attend clinical conferences and related sessions. (S)

### 7210 (PHC 7210) Fundamentals of Cancer Biology. Cr. 3

Prereq: IBS 7010 and IBS 7020. Introduction to the basic principles of neoplastic development and progression. 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. (W)

### 7220 (PHC 7220) Molecular Biology of Cancer Development. (MBG 7120) Cr. 3

Prereq: IBS 7010, IBS 7020, and C B 7210. Genetics and molecular basis of normal cell transformation into malignant cancer cells. Molecular mechanisms that are fundamental to the regulation of cell growth, development, and differentiation will be discussed. 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. (B:F)

### 7240 (PHC 7240) Principles of Cancer Chemotherapy. Cr. 2

Prereq: IBS 7010, IBS 7020, and C B 7210. Continuation of the principles of cancer therapy taught in C B 7210. Concepts relating to tumor biology and the biochemistry and pharmacology of both classic and targeted agents are covered. (B:W)

### 7250 (C B 7250) Cancer Control. (PHC 7250) Cr. 2

Introductory lecture on nature of cancer control activities and the issues they raise, including class discussions; lectures by researchers in chemo- and dietary prevention, screening, symptom control, care and support, and rehabilitation; summary overview. (W)

### 7300 Special Topics in Cancer Biology. Cr. 1-3

Prereq: C B 7210. Methodologies and research questions, basic, clinical and translational science, and future issues/opportunities pertaining to the topics.

### 7400 (MBG 7400) Molecular Biology of Cellular Signalling. Cr. 2

Molecular basis of cell-cell interactions, hormonal interactions, and interactions between different cellular compartments. (B)

### 7410 (I M 7410) T Cell Biology and Cancer Immunotherapy. Cr. 3

Offered for S and U grades only. Prereq: IBS 7090 or equiv; consent of coordinator. 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, T cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion for 11 weeks. Each weekly discussion slot is coordinated with the previous lecture topic and is designed for student participation in the form of presentation and discussion of current journal articles. Students are also required to prepare a 5-page research proposal based on NIH format on any topic in the course and to present the proposal to the whole class in the 12th and 13th week. The proposal will be due in the 15th week and peer-reviewed in the 16th week. (B:W)

### 7430 Cancer Epidemiology. Cr. 2

Open only to M.P.H. or Ph.D. public health or cancer biology majors. Prereq: FPH 7240 recommended. 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. (B:W)

### 7460 Mechanisms of Neoplasia: Alterations to Cellular Signaling. Cr. 3

Prereq: IBS 7010, IBS 7020, and C B 7210. 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. Current discoveries and observations in the field of cancer research will be conducted by expert cancer researchers, and are aimed at enhancing analytical and critical thinking skills of students and researchers from diverse backgrounds including cancer biology. (B:W)

### 7600 Applied Cancer Biostatistics. (FPH 7035) Cr. 3

Prerequisites: IBS 7010, IBS 7020, and C B 7210. 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. (B:F)

**7700 Recent Developments in Cancer Biology. Cr. 1 (6 req.)**

Open only to students in Cancer Biology graduate program; mandatory for students in years 1-4. 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. (F,W)

**7710 Individual Studies in Cancer Biology. Cr. 1 (3 req.)**

Prereq: enrollment in graduate program in cancer biology or consent of advisor and graduate officer. Open only to Cancer Biology Majors. Offered for S and U grades only. 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. (T)

**7890 Seminar in Cancer Biology. Cr. 1 (6 req.)**

Offered for S and U grades only. Open only to Cancer Biology majors; students must elect each year. This course provides second year and above students with the opportunity to present their dissertation work to their peers. This class not only provides the students with the opportunity to develop their oral presenting skills, but also gives the students a chance to critically evaluate their peers. (F,W)

**7990 Advanced Topics in Cancer Biology. Cr. 1 (Max. 12)**

Prerequisites: IBS 7010, IBS 7020, and C B 7210. Offered Winter of every third year. Focus on the latest aspects and concepts in cancer research and treatment with emphasis on novel and controversial concepts, ideas, theories, and approaches in basic and clinical cancer research. Open discussions and exchange of ideas between cancer researchers and students to better understand relevant topics from different perspectives and opposing viewpoints, and to develop a comprehensive overview of cutting-edge cancer research and the latest advances in this field. (B:W)

**7996 Research. Cr. 1-15**

Open only to Cancer Biology Majors; others by consent of advisor and graduate officer. Directed study and pre-dissertation research with faculty in the program. (T)

**7999 Master's Essay. Cr. 1-4 (Max. 4)**

Open only to Cancer Biology Majors; others by consent of advisor and graduate officer. Research in literature and writing of essay on topic area in cancer biology. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Open only to Cancer Biology Majors; others by consent of advisor and graduate officer. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: C B 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following C B 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: C B 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following C B 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: C B 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following C B 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in C B 9991- C B 9994. Offered for S and U grades only.



# Ophthalmology

Office: K-202 Kresge Eye Institute; 313-577-1355

Chairperson: Gary W. Abrams

## *Professors*

Robert N. Frank, Robert S. Jampel, Renu Kowluru, Mark L. McDermott, James E. Puklin, Jayne S. Weiss, Akio Yamazaki, Fu-Shin Yu

## *Associate Professors*

Evan Black, Bret A. Hughes, Mark S. Juzych, Patrick L. Murphy, John M. Ramocki, Gregory Van Stavern, Fred Zwas

## *Assistant Professors*

Monica Y. Alexander, Christopher Cheyer, Nicolas Cottaris, Sylvia Elfar, Anju Goyal, Raymond Iezzi, Tamer Mahmoud, John D. Roarty, Gabriel Sosne, Asheesh Tewari, Keping Xu, Jason Yonker

## *Clinical Professors*

John Baker, David Barsky, John Cowden, Conrad L. Giles

## *Clinical Associate Professors*

Jo D. Isaacson, Frank A. Nesi, Sidney L. Stone, Michael T. Trese

## *Clinical Assistant Professors*

Robert Blau, John Burchfield, Michael Clune, Edward Cohn, Anna DiLorenzo, Steven Dunn, Geoffrey Gladstone, Howard Joondeph, Jon Koh, Neal Krasnick, Susan Malinowski, Donald Muenk, Shoib Myint, Hanna Obertynski, Alan Parent, Rajesh Rao, Les Siegel, Marc Siegel, John Suchomel

## *Clinical Instructors*

E. Michael Balok, Ruth Boyman, Joel Miller, Shirley Sherrod

## *Adjunct Professors*

John Ubels, Nalin Unakar

The Ophthalmology Department is committed to education, research, and patient care. These activities are conducted primarily in the central campus of the Detroit Medical Center, in the Kresge Eye Institute, under the direction of the Department Chairperson. The close association of medical practice, research and teaching makes the Kresge Eye Institute an ideal teaching facility. Whether correcting common eye disorders such as cataracts, glaucoma and strabismus, or performing highly technical operations such as vitrectomy, corneal transplants or lens implantations, the medical staff uses the most advanced diagnostic, treatment, and surgical methods. The Institute is ideally suited for clinical instruction because it attracts many patients with rare eye diseases, engages in advanced diagnostic techniques, performs a wide range of delicate eye operations and is a center for eye research. Through its affiliation with the University and the Detroit Medical Center, the Institute provides a stimulating learning environment for graduate physicians and medical students.

Each year the Institute selects seven outstanding medical graduates for a three-year residency training program in eye diseases and surgery. The residency program is structured to provide appropriate didactic and clinical teaching and resident support services to exceed all ACGME requirements for resident education. Clinical and research fellowships in vitreoretinal diseases and surgery, glaucoma and ocular trauma are available on a selective basis upon completion of the residency program. The Institute's faculty also provides lectures and clinical training for third and fourth year medical students. The teaching encompasses courses in ophthalmology for residents in family practice and emergency medicine.

# Orthopaedic Surgery

Office: 18100 Oakwood Blvd, Suite 300, Dearborn, MI 48124;

313-429-7977, Fax: 313-429-7981

Chairperson: Lawrence G. Morawa

## *Professors*

Michael Church (Associate), James Cotichia, Dennis G. Drescher, John R. Jacobs, Mark Marunick, Robert H. Mathog, Edwin Monsell, George H. Yoo

## *Clinical Professors*

Ned I. Chalat, Glendon Gardner, Jack Kartush, Vanessa Schweitzer, Michael Seidman, Kathleen Yaremchuk

## *Associate Professors*

Marian J. Drescher, Andrew Fribley (Associate), Ho-Sheng Lin, Lawrence Lum (Associate), Jinsheng Zhang

## *Clinical Associate Professors*

Richard Arden, Dennis Bojrab, Michael Hauptert, Michael LaRouere, Eric Sargent, Robert Stachler

## *Assistant Professors*

Michael Carron, Paul Finlayson, Adam Folbe, Zhengqing Hu, Walter Salwen (Associate), Mahdi Shkookani, Giancarlo Zuliani,

## *Clinical Assistant Professors*

Han-Soo Bae, Seilesh Babu, Samer Bahu, Tamer Ghanem, Edward G. Jankowski, Lamont Jones, Jeffrey S. Leider, Daniel D. Megler, Shreepad Naik, Pavan Reddy, Werner Roennecke, David A. Scapini, Mark Simpson, John Zappia

## *Adjunct Associate Professor*

Maria C. Jackson-Menaldi

## *Adjunct Assistant Professor*

Susan Fleming

## *Clinical Instructor*

John Jacquart

The M.D. program in orthopaedic instruction is integrated and designed to introduce the medical student to the entire field of musculoskeletal diseases and injuries. By means of demonstrations, lectures, conferences, clinics and clerkships, the student learns the important specifics of the orthopaedic examination and is exposed to many groups of musculoskeletal problems related to trauma in adults and children. By study of the factual content of common problems in each field, the student's attention is directed to general principles of diagnosis and treatment.

# Otolaryngology, Head and Neck Surgery

Office: 5E University Health Center, 4201 St. Antoine; 313-577-0804  
Chairperson: Robert H. Mathog

## *Professors*

Michael Church (Associate), James Coticchia, Dennis G. Drescher, John R. Jacobs, Omer Kucuk, Lawrence Lum (Associate), Mark, Marunick, Robert H. Mathog, Edwin Monsell, George H. Yoo

## *Clinical Professors*

Dennis Bojrab, Ned I. Chalat, Glendon Gardner, Jack Kartush, Vanessa Schweitzer, Michael Seidman, Kathleen Yaremchuk, Mark Zacharek,

## *Associate Professors*

Marian J. Drescher, Ho-Sheng Lin, Jinsheng Zhang

## *Clinical Associate Professors*

Richard Arden, Lewis Clayman, Michael Hauptert, Michael LaRouere, Frank Nesi, Eric Sargent, Robert Stachler

## *Assistant Professors*

Michael Carron, Adam Folbe, Andrew Fribley (Associate), Zhengqing Hu, Giancarlo Zuliani, Paul Finlayson, Mahdi Shkoukani

## *Clinical Assistant Professors*

Syed Ahsan, Seilesh Babu, Han-Soo Bae, Samer Bahu, Tamer Ghanem, Francis Hall, John Hilu, Edward G. Jankowski, Lamont Jones, Alvin Ko, Jeffrey S. Leider, Daniel D. Megler, Pavan Reddy, Werner Roennecke, David A. Scapini, Mark Simpson, John Zappia

## *Adjunct Professor*

Maria C. Jackson-Menaldi

## *Adjunct Assistant Professor*

Susan Fleming

## *Clinical Instructors*

John Jacquart

The M.D. program instruction of the Department of Otolaryngology, Head and Neck Surgery is designed to acquaint students with all diseases treated by the modern otolaryngologist. Instruction is given in the methods of examining the ear, nose and throat in the outpatient department. Audiology is included so that the student may properly classify deafness in prescribing appropriate therapy.

Head and neck, and plastic and reconstructive surgery as related to otolaryngology are included in the instructional program. Observation and, at times, assistance at surgical operations offer additional learning opportunities to students. In general, the program stresses the correlation of ear, nose and throat to the entire curriculum in medicine and surgery.

# Pathology

Office: 9374 Scott Hall; 313-577-1102  
Chairperson: Wael Sakr  
Website: <http://www.med.wayne.edu/Pathology/>

## *Professors*

Michael Cher, John D. Crissman, Q. Ping Dou, Rafael Fridman, James Granneman, Kenneth V. Honn, Hyeong-Reh Kim, Tuan H. Kuo, (Emeritus) Markku Kurkinen, Fred Miller, Margarita Palutke, Avraham Raz, Fazlul H. Sarkar, Shijie Sheng, Anders Sima, Michael Tainsky

## *Clinical Professors*

Rouba Ali, Jay Bernstein, Gerald Feldman, Chong-Jai Kim, William Kupsky, Henry Lim, Anwar Mohamed, G. Prem Reddy, Wael Sakr, Vinod Shidham, Jayne Weiss, Maria Worsham

## *Associate Professors*

Barbara J. Anderson, Joseph D. Artiss, Ricardo Bonfil, Barbara Bosch, George S. Brush, Clement A. Diglio, Merlin E. Ekstrom, Gerald Feldman, Tamar Giorgadze Henry Heng, Robert MacKenzie, Ikuko Kato, Meng Jer Lee, Todd Leff, Kenneth C. Palmer, Kaladhar Reddy, Malathy Shekhar, Gen Sheng Wu

## *Clinical Associate Professors*

Martin Bluth, Sreenivas Chinni, Larisa Debelenko, Marilynn Fairfax, Suzanne Jacques, Fulvio Lonardo, Janet Poulik, Faisal Qureshi, K.M. Wahidur Rahman, Guojun Wu, Youming Xie, Zheng-Quan Yang

## *Assistant Professors*

Sreenivas Chinni Mustapha Kandouz, Krishna Maddipati, Pratima Nangia-Makker, K.M. Wahidur Rahman, Hossein Salimnia, Larry Tait, Guojun Wu, Youming Xie, Zheng-Quan Yang

## *Clinical Assistant Professors*

Sudeshna Bandyopadhyay, Gail Bentley, Harish Budev, Doina David, Saleh Ebrahim, Ali Gabali, Jining Feng, Tamar Giorgadze, Robert E. Grier, Mehsati Herawi, Hayan Jaratli, Patrick M. Long, Shasi Madan, Barbara O'Malley Dattatreya Phadke, Hossein Salimnia, Dongping Shi, Paul Tranchida, Xu Zeng

# Graduate Degree

## *DOCTOR OF PHILOSOPHY with a major in pathology*

The Pathology Graduate Program focuses on cellular and molecular pathology of human disease with an emphasis on cancer, cardiovascular and metabolic diseases. The program provides students with the tools to carry out first-rate basic research with state-of-the-art technologies and a solid understanding of clinically relevant human diseases. Research focuses on the molecular and cellular mechanisms responsible for the pathogenesis of human diseases.

At the graduate level, the Department of Pathology offers studies related to cellular and molecular pathobiology leading to the Doctor of Philosophy degree. Ph.D. students in the program enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The IBS curriculum includes:

IBS 7010 -- Biomedical Molecular Biology: Cr. 5  
IBS 7020 -- Biomedical Cell Biology: Cr. 5.

It also includes selection by the student in conjunction with the program Graduate Officer of courses within the IBS Systems curriculum.

IBS Systems Curriculum:

IBS 7040 -- Biomed. Cardiovasc. Renal & Respiratory Syst.: Cr. 2  
IBS 7050 -- Biomedical Neurobiology: Cr. 2

## Doctor of Philosophy

**Admission** is contingent upon admission to the Graduate School and the graduate programs of the School of Medicine; see pages 18 and 421, respectively. Applicants to this doctoral program should have a background in one of the chemical or biological sciences. Students with diverse backgrounds will be considered individually if they have special competence related to one of the departmental interests. Applicants are expected to provide their scores on the Graduate Record Examination. Personal interviews are desirable. Letters of inquiry should be directed to the Graduate Officer of the Department.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** In addition to the general degree requirements described on pages 37 and 422, and the IBS curriculum described above, students are required to take thirty credits of Doctoral Dissertation Research (PTH 9991, 9992, 9993, and 9994) in consecutive academic year semesters. Other courses are arranged to meet the specific needs and interests of each student. At the end of the second year of study, students are required to take a qualifying exam to demonstrate a basic understanding of basic molecular and cellular biology, pathology, and their chosen specific area of research. Doctoral thesis research is conducted in the laboratory of one of the Pathology faculty members.

## Assistantships and Research

All students admitted to the Pathology Graduate Program are awarded IBS graduate research assistantships. For more complete information on financial assistance, students should contact Todd Leff, Graduate Officer, Department of Pathology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201. E-mail address: tleff@med.wayne.edu.

## GRADUATE COURSES (PTH)

The following courses, numbered 7000-9999, are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 7000 General Pathology. Cr. 5

Open only to Ph.D. students. Prereq: BMB 7010 and 7030; PSL 7010 and 7030; ANA 7030; or written consent of instructor. 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. (F)

### 7050 Introductory Hematology. Cr. 2

Prereq: PTH 7000, consent of instructor. Open only to Ph.D. candidates. (Y)

### 7080 Special Topics in Pathology. Cr. 1-15

Prereq: consent of instructor. Open only to Ph.D. candidates in pathology. Frontier areas in experimental pathology and clinical laboratory sciences. Format may be lecture, laboratory, or discussion; topics to be announced in Schedule of Classes. (T)

### 7085 Critical Review of Scientific Publications. Cr. 1 (Min. 3, max. 5)

Open only to students admitted to Ph.D. program in medicine with a major in pathology; others by consent of program. For Ph.D. students in biomedical fields. Current experimental approaches in medical research. (T)

### 7090 Signal Transduction and Cell Growth Regulation. Cr. 3

Open only to master's and Ph.D. students. Prereq: IBS 7010, 7020, or equiv. Signal transduction pathways, both cellular and molecular, and their alterations in cancer. Journal articles and instructor handouts used; emphasis on relationship to disease process. (B:W)

### 7130 Neuropathology. Cr. 2

Prereq: PTH 7000, consent of instructor. Open only to Ph.D. candidates. (Y)

### 7150 Pathology of Respiratory Tract. Cr. 2

Prereq: PTH 7000 and consent of instructor. Open only to Ph.D. candidates. (Y)

### 7180 Cardiovascular Pathology. Cr. 2

Prereq: PTH 7000; consent of instructor. Open only to Ph.D. candidates. Gross, microscopic and submicroscopic anatomy and pathology of cardiovascular disease, both human and experimental. (Y)

### 7330 Pathology of the Kidney. Cr. 2

Prereq: PTH 7000, consent of instructor. Open only to Ph.D. candidates. 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. (Y)

### 7500 Systemic Pathophysiology. Cr. 3

Prereq: ANA 7030, PSL 7010, or consent of instructor. Offered for graduate credit only. Pathology and pathogenesis underlying abnormal physiologic function of major organ systems in humans. Material Fee As Indicated In The Schedule of Classes (Y)

### 7890 Seminar. Cr. 1

Offered for S and U grades only. Open only to Ph.D. candidates in pathology. (Y)

### 7990 Directed Study in Clinical Pathology and Pathologic Anatomy. Cr. 2 (Max. 12)

Open only to Ph.D. candidates in medicine with a pathology major; others by consent of program. (Y)

### 8000 Current Topics in Tumor Metastasis. Cr. 3

Open only to master's and Ph.D. students. Prereq: IBS 7010, 7020, or equiv. Advances in research on key aspects of tumor metastasis; emphasis on molecular mechanisms, tumor invasion, angiogenesis, and organ-specific tumor metastasis. (F)

### 8010 Molecular Biology of Diabetes and Obesity. Cr. 2

Open only to master's and Ph.D. students. Prereq: IBS 7010, 7020, or equiv. Basic principles and current research topics in the etiology and pathology of diabetes; diabetic complications and obesity. (B:F)

### 9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### 9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

### 9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5

Prereq: PTH 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PTH 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PTH 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PTH 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PTH 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PTH 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PTH 9991- PTH 9994. Offered for S and U grades only.



# Pediatrics

*Office:* 1K40 Children's Hospital; 745-5870  
*Chairperson:* Bonita F. Stanton

## *Professors*

Jacob Aranda, Basim Asmar, Erawati Bawle, Thomas Babb, Kanta Bhamhani, Diane Chugani, Harry Chugani, Barbara Cushing, Virginia Delaney-Black, Gerald Feldman, Howard Fischer, Larry Fleischmann, Paul Giblin, Richard Humes, Deepak Kamat, Joseph Kaplan, Peter Karpawich, S. Nadya Kazzi, Winston Koo, Xiaoming Li, Jeanne Lusher, Kathleen Meert, William Lyman, Tej Mattoo, Enrique Ostrea, Vincent Palusci, Yaddanapudi Ravindranath, Arthur Robin, Robert Ross, Ashok Sarnaik, Sharada Sarnaik, Seetha Shankaran, Susan Smolinske, Bonita Stanton, David Stockton, Suzanne White

## *Clinical Professors*

Daniel Batton, Chandra Edwin, Zia Farooki, Susumu Inoue, Ernst Krug, Ruben Kurnetz, Jeffrey Maisels, Thomas Riggs, Daniel Schnaar, Natalia Tanner, Nestor Truccone, Elliott Weinhouse, Sophie Womack

## *Associate Professors*

Gyula Acsadi, Mary Lu Angellili, Mary Bedard, Xinguang Chen, Wei Du, Thomas Forbes, Alexander Gow, Merlin Hamre, Sabrina Heidemann, A.H.M. Mahbulul Huq, Thomas L'Ecuyer, Mary W. Lieh-Lai, Prashant Mahajan, Ellen Moore, Otto Muzik, Sylvie Naar-King, Chokechai Rongkavilit, Sureyya Savasan, Elizabeth Secord, Jeffrey Taub, Ron Thomas, Daniel, Turner, Rudolph Valentini

## *Clinical Associate Professors*

David Aughton, Alcesa Backos, Charles Barone III, Bassem Bashour, Nirmala Bhaya, George Blum, Rajendra Desai, Nicholas Doss, Bishara Freij, Bassem Gebara, Herman Gray, Earl Hartwig, John Hopper, Charles Inniss, Gerald Katzman, Stephen Knazik, Thomas Malone, Anita Moncrease, Chukwuma Nwaesei, Ali Rabbani, Kalavathy Srinivasan, M. Thirumoorathi, Helene Tigchelaar, Seetha Uthappa, Steven Waskerwitz, Hashim Yar

## *Assistant Professors*

Nahed Abdel-Haq, Ibrahim Abdulhamid, Matthew Adams, Sanjeev Aggrawal, Namir Al-Ansari, Ahdh Amer, Jocelyn Ang, Eishi Asano, Modupe Awongua, Eric Ayers, Leland Babitch, Allison Ball, Michael Behen, David Benjamins, Dawn Bielawski, Mark Borkin, Brooke Budde, Nedim Cakan, Eugene Cepeda, James Chinarian, Kavitha Chintala, Meera Chitlur, Nitin Chouthai, Roland Chu, Jeff Clark, Cristina Cotronei, Edward Dabrowski, Deborah Ellis, Mohammad El-Baba, Joshua Evans, Yvonne Friday, Pooja Gupta, Mona Hanna-Attisha, Teresa Holtrop, Huiyan Jiang, Csaba Juhasz, Sujatha Kannan, Nirupa Kannikewswaran, Katherine Ling-McGeorge, Jorge Lua, Sushasini Macha, Shailender Madani, Marianne Majkowski, Lisa Markman, Sharon Marshall, Christopher Mastropietro, Kathleen Moltz, Jenny Montejo, Anne Mortensen, Girija Natarajan, Grace Onimoe, Angulique Outlaw, Milind Pansare, Athina Pappas, Graham Parker, Charles Pelshaw, Fangyu Peng, Michael Petterson, Madhvi Rajpurkar, Mark Riederer, Robert Rothermel, Renato Roxas Sashi Sahai, Usha Sethuraman, Rosemary Shy, Harinder Singh, Anju Sawni, Lynn Smitherman, Gowdarere Srinath, Beena Sood, Shelley Street, Senthil Sundaram, Nadia Tremonti, Debbie Toder, Susan Tourner, Joanne Wang, Sara Weber-Pendleton, Mark Zilberman

## *Clinical Assistant Professors*

Valerie Abbott, Abdul Bahrainwala, Usha Batra, Michelle Behrendt, Susan Bellefleur, Christopher Bergsman, Earl Black, Marshall Blondy, Robert Blum, Lisa Braun, Avinash Chawla, Minh Cruz, James Delaney, Jeffrey Dembs, Michelle Desmet, Jay Eastman, Brian Engel, Michael A. Facktor, Paul Finkel, Alison Fox, Peter Francis, Samina Furhad, Souheil Gebara, Lobna Elhasan-Fakih, Rabbi Elimelech Goldberg, P. Seymour Gordon, Sudershan Grover, Rashmi Gupta, Ceres Guzman-Morales, Demetris

Haritos, Douglas Henry, Sheryl Hirsch, Wenhui Hua, Karen Hufnagle, Eileen Hug, Ann-Marie Ice, Samir Jamil, Tisa Johnson, Shahida Khan, Lourice Kenine-Rafols, Susan Kessler, Lisa Klein, Josef Kobiljak, Steven Kreshover, Alan Kwaselow, Stacy Leatherwood, Hon Kai Lee, Martin Levinson, Keh-Chyang Liang, Hernando Lyons, Kathleen Mammel, Irving Miller, Jay Mitchell, Christian Nageotte, David Obudzinski, Anuradha Pabhu, Narasingrao Pampati, Cynthia Pryce, Kanthi Rajan, Robert Roman, Jorge Rose, William Rubinoff, Homer Ryan, Bassell Salman, Elliott Samet, Hadi Sawaf, Robert Scherer, Tor Shwayder, Stanford Singer, Mary Smyth, Harvey Stein, Stephen Sturman, Mary Sylwestrzak, Sharon Tice, Gerald Timmis, Wanda Whitten-Shurney, Kim Tekkanat, Daniel Wilhelm, Joyce Wolf, Petronio Yadao

#### *Adjunct Assistant Professors*

Barbara Cash, Thomas Koepeke, Stephen Spector

#### *Clinical Instructors*

Laura Clark, Ahmed Dahshan, David Dinger, James Fordyce, Sisinio Fernandos, Gayatary Garg, Rao Guthikonda, Jeanette Marchand-Manteyak, Seymour Krevsky, Jonathan Pasko, Mark Roth, Salvatore Ventimiglia

Formal teaching by the Department of Pediatrics takes place in the patient units and clinics at Children's Hospital of Michigan during the third year of the medical school program. The aim of the student clerkship is to acquaint the student with the course of normal development, the common variations from normal patterns, and the reaction of the immature to illness. An effort is made to incorporate all aspects of childhood in the allotted time of study in order to have full participation by members of the surgical, orthopedic, and psychiatric staff. An inpatient and outpatient experience is offered that affords the student an opportunity to be exposed to a broad array of pediatric illness. The Department of Pediatrics maintains contact with the student before the clerkship through contribution to the curriculum of basic science courses. The Department also provides an optional program of study during the fourth year.

The Fourth Year Elective Program offers the senior student an opportunity to gain experience in general pediatrics at a greater level of responsibility in patient care. The student assumes an increasing role as a primary caretaker under the supervision of the resident staff in advanced years of pediatric training. Experience in the pediatric subspecialties is also available to senior students. Thus, they are able to improve the level of their clinical skills and to obtain familiarity with the application of clinical and laboratory research techniques to the investigation of pathophysiology in a wide variety of children. Further information regarding programs may be obtained by writing to the office of the Chairperson of the Department.

# Pharmacology

*Office:* 6374 Scott Hall; 313-577-1580

*Chairperson:* Bonnie F. Sloane

*E-mail:* bsloane@med.wayne.edu

*Associate Chairperson:* Lawrence H. Lash

*E-mail:* l.h.lash@wayne.edu

*Website:* <http://www.med.wayne.edu/pharmacology>

#### *Professors*

Gordon F. Anderson (Emeritus), Rodrigo Andrade, Michael J. Bannon, Dharam P. Chopra, Q. Ping Dou, Nicholas G. Davis, Harold Goldman (Emeritus), Gregory Kapatos, David Kessel, Lawrence H. Lash, Larry H. Matherly, Roy B. McCauley, John Reiners, Eugene P. Schoener, Robert B. Silver, Bonnie F. Sloane, Arun Wakade

#### *Associate Professors*

Cristina Artalejo, George Brush, Thomas Kocarek, Ladislau Kovari, Raymond R. Mattingly, Kamiar Moin (Research), Stanley R. Terlecky, Ellen Tisdale, Gan Wang, Hai-Young Wu

#### *Assistant Professors*

Julie Boerner, Jing Li, Karin List, Izabela Podgorski, Sokol Todi

#### *Adjunct Faculty*

Chaya Brodie, Dora Cavallo-Medved, Sandra Rempel, Tiziano Scarabelli, William Wu

## Graduate Degrees

*MASTER OF SCIENCE with a major in pharmacology*

*DOCTOR OF PHILOSOPHY with a major in pharmacology and a concentration in molecular and environmental toxicology*

The discipline of pharmacology is concerned with all aspects of the effects of drugs and chemicals on living systems. The field ranges from investigations at the molecular level to population studies on a global level. Drug development and evaluation make up an important part of pharmacology, but the field also includes the use of drugs as tools to probe the functions of macromolecules, cells, organs and even whole animals, and investigation of the harmful effects of chemicals on cells, organs and animals (toxicology). The breadth of interests encompassed by pharmacology provides excellent opportunities for individuals with strong interests and training in biology or chemistry to apply their knowledge to the understanding of fundamental biological processes.

## Master of Science and Doctor of Philosophy Degrees

The Department of Pharmacology offers programs leading to the Master of Science degree and to the Doctor of Philosophy degree. In general, it is not recommended that students elect to register for a master's degree program, except under unusual circumstances. A joint Ph.D.-M.D. program is also available.

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and the Graduate Program of the School of Medicine (see page 421). Applicants to the graduate program of the Department of Pharmacology should have a background in one of the chemical or biological sciences. Students with diverse backgrounds will be considered individually if they have special competence related to one of the departmental areas of interest. Applicants are expected to provide scores from the Graduate Record Examination. A subject test is not required, but is helpful in making the admission decision. Personal interviews are recommended. Let-



ters of inquiry should be directed to the Chair, Graduate Admissions Committee of the Department.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** Requirements for students enrolled in graduate degree programs are described in this bulletin beginning on page 36. Ph.D. students in the graduate program in pharmacology enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The IBS curriculum includes:

IBS 7010 -- Biomedical Molecular Biology: Cr. 5

IBS 7020 -- Biomedical Cell Biology: Cr. 5

It also include selection by the student in conjunction with the departmental Graduate Officer of courses within the IBS Systems curriculum:

IBS 7040 -- Biomed. Cardiovascular, Renal and Resp. Systems: Cr. 2

IBS 7050 -- Biomedical Neurobiology: Cr. 2

IBS 7060 -- Biomed. Endocrine and Repro. Systems and Development: Cr. 2

IBS 7090 -- Biomedical Immunology: Cr. 2

Pharmacology course requirements include: Pharmacology lecture (PHC 7010) (successful completion of this course will provide a waiver of two credits of Systems Biology coursework), participation in the journal club (PHC 7700) and seminar series (PHC 7890), and the selection of six advanced pharmacology minicourses (PHC 7650).

For each student in the program a unique plan is constructed to allow utilization of previous educational experience and individual interests, permitting the student to progress as rapidly as possible. The program consists of a small number of required courses, several research rotation projects, a qualifying examination, and a doctoral dissertation based on new and significant research findings. The research opportunities available for graduate students include the areas of biochemical, cellular, cardiovascular, autonomic, and renal pharmacology; neuropharmacology; cancer biology, carcinogenesis, and chemotherapy; drug metabolism; and environmental toxicology. Major expertise is available in cell biology of protein trafficking and signal transduction, in protein chemistry, proteases and molecular biology, cellular aging, and in functional imaging technology. A concentration in molecular neuropharmacology is available for specialized training in pharmacology as applied to neuroscience. The master's degree requires successful completion of a thesis based on original laboratory research. The thirty-credit Ph.D. dissertation registration requirement is fulfilled by registration in the courses PHC 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

## Molecular and Environmental Toxicology (Ph.D. Concentration)

The MET concentration fulfills the basic requirements for a Ph.D. in Pharmacology but also entails additional toxicology-related classroom and research experience. The disciplines of pharmacology and toxicology are highly intertwined. They require the same basic knowledge set; involve the study of the same biochemical, molecular and genetic processes; and use a similar vocabulary. However, the focus of the two disciplines is different, with pharmacology being concerned with the therapeutic effects of drugs and toxicology being concerned with the detrimental effects of chemicals and agents on biological processes. The term "environmental" is used in the concentration's title to convey the concentration's attention to the effects of environmental exposure on human health, as opposed to ecological/terrestrial effects. The overall goals of the MET concentration are to provide comprehensive instruction in modern-era molecular and cellular toxicology, and an appreciation of how such expertise can be

used not only to study the mechanism of an agent's toxic effects, but also in an inter-disciplinary fashion to study environmentally-linked disease. To achieve this goal, the MET concentration will offer interdisciplinary research opportunities and access to mentors who are dedicated to understanding the toxic effects of specific toxicants (environmental and therapeutic), as well as probing the complex effects of exposure to environmental stressors. Available research projects in the MET concentration will feature investigations examining the effects of environmental agents (e.g., urban air pollution, cigarette smoke, PCBs, lead, dioxin, and phthalates) on cellular and molecular processes involved in disease susceptibility, and initiation and progression. MET scientists are studying intracellular signaling pathways, transcriptional regulation of gene expression, apoptosis, oxidative stress, DNA repair, epigenetic and genetic perturbations, and complex mechanisms in cell growth and differentiation that determine the environmental contribution to diseases with a rising incidence in the urban setting such as metabolic disease, cancer, immune system disturbances and mental health disorders.

The MET concentration in the Department of Pharmacology Graduate Program will emphasize the use of contemporary approaches, such as advanced techniques in biochemistry, cell biology, molecular biology, molecular genomics, epigenetics, bioinformatics, proteomics, and epidemiology, in problems aimed at dissecting the mechanisms of environmentally-induced disease. In order to prepare for challenging careers in academics, industry and government, students in the MET concentration are expected to seek access to research laboratories that conform to standards of excellence and are recognized by peers to be competitive in the environmental health sciences/molecular and cellular toxicology field. It is the goal of the MET concentration to prepare our students of today to serve as the leaders of tomorrow.

## Assistantships and Research

The Department has graduate assistantships and graduate research positions available for a number of qualified students. All students accepted into the graduate degree program are considered for financial assistance and no application forms are necessary for this purpose. Students on assistantships are advised to elect no more than twelve credits in a given semester. All students, whether or not they hold a fellowship or assistantship, are required to assist the graduate faculty in research activities as a component of their educational experience. For more complete information, students should consult or write the Chair, Graduate Admissions Committee, Department of Pharmacology, Wayne State University School of Medicine, 540 East Canfield, Detroit, Michigan 48201.

## GRADUATE COURSES (PHC)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5030 Individual Research in Pharmacology. Cr. 2-5

Prereq: consent of instructor. 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. (T)

### 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. (Y)

### 7010 Pharmacology Lecture. Cr. 4

Recommended prereq: background in organic chemistry, biochemistry and physiology. Introductory presentation of drug actions on living tissue. (W)

### 7015 Principles of Pharmacology. Cr. 2

Prereq: graduate standing. General principles; cholinergic, adrenergic, and cardiovascular sections. (S)

**7210 Fundamentals of Cancer Biology. (C B 7210) Cr. 3**

Prereq: IBS 7010 and IBS 7020. Introduction to the basic principles of neoplastic development and progression. 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. (B:W)

**7220 Molecular Biology of Cancer Development. (C B 7220) (MBG 7120) Cr. 3**

Prereq: IBS 7010, IBS 7020, and C B 7210. Genetics and molecular basis of normal cell transformation into malignant cancer cells. Molecular mechanisms that are fundamental to the regulation of cell growth, development, and differentiation will be discussed. 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. (B:F)

**7240 Principles of Cancer Chemotherapy. (C B 7240) Cr. 2**

Prereq: IBS 7010, IBS 7020 and C B 7210. Continuation of the principles of cancer therapy taught in C B 7210. Concepts relating to tumor biology and the biochemistry and pharmacology of both classic and targeted agents are covered. (Y)

**7250 (C B 7250) Cancer Control. Cr. 2**

Introductory lecture on nature of cancer control activities and the issues they raise, including class discussions; lectures by researchers in chemo- and dietary prevention, screening, symptom control, care and support, and rehabilitation; summary overview. (B)

**7410 (MTX 7010) Principles of Toxicology. (BIO 7011) Cr. 3**

Prereq: CHM 2220 and 2230 and BIO 1510 or equiv. 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. (F)

**7505 Cellular Electrophysiology of CNS Neurons. Cr. 3**

Prereq: written consent of instructor; IBS 7020 recommended. Molecular mechanisms underlying electrical activity of CNS neurons. Lectures and student presentations: one hour lecture followed by two hours of student-led discussion. (B:F)

**7650 Advanced Topics in Pharmacology. Cr. 1-6 (Max. 6)**

Prereq: PHC 7010. 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. (T)

**7700 Recent Developments in Pharmacology. Cr. 1-4 (Max. 12)**

Prereq: consent of instructor. Selected topics and readings in pharmacology. (T)

**7710 Individual Studies in Pharmacology. Cr. 1-8 (Max. 8)**

Prereq: consent of instructor. Offered for S and U grades only. Open only to pharmacology M.S. and Ph.D. students. (T)

**7890 Seminar. Cr. 1 (Max. 12)**

Prereq: consent of instructor. Offered for S and U grades only. Open only to pharmacology M.S. and Ph.D. students. Assigned readings and student presentation; faculty and outside speakers. (T)

**7996 Research. Cr. 1-20 (Max. 30)**

Prereq: consent of instructor. Special research topics in specified areas arranged with individual faculty members. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

(T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHC 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHC 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHC 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHC 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PHC 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PHC 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PHC 9991- PHC 9994. Offered for S and U grades only.



# Physical Medicine and Rehabilitation

*RIM Office:* 822 Rehabilitation Institute of Michigan; 313-966-0444  
Fax: 313-745-1063  
*Oakwood Office:* 18181 Oakwood Blvd. Suite 411: Dearborn, MI  
48124; 313-438-7373 Fax: 313-438-7375

*Chairperson:* Jay Meythaler

## *Professors*

Jay Meythaler, Scott Millis

## *Clinical Professors*

Lawrence Horn, Maury Ellenberg

## *Adjunct Professor*

Lisa Rapport

## *Associate Professor*

Jean Peduzzi-Nelson

## *Clinical Associate Professors*

Kertia Black, Gary Chodoroff, Steven R. Hinderer, Kenneth Richter,  
Geoffrey K. Seidel, Paola Seidel

## *Associate Professors, Full-Time Affiliate*

Robin Hanks, Peter Lichtenberg

## *Assistant Professors, Full-Time Affiliate*

Colette Duggan, Steve Vangel

## *Clinical Assistant Professors*

Steven Arbit, Peter Biglin, Ali Bitar, James Chinarian, Edward Dabrowski,  
M. David Jackson, Dong W. Lee, Sung Jin Lim, Yongmin Liu, David  
McElroy, Jeffrey Middledorf, Shelley Nepa, Charles Pelshaw,  
Bhagyalakshmi Policherla, Mark Rottenberg, Yoon, Ike, Jai Liem, Susan  
Youngs Pramad Muhki, Hi Song, Eileen Donovan

## *Assistant Professors, Clinical, Full-Time Affiliate*

Norm Fichtenberg, Thomas Gola, Edward Nieshoff, Tanya Sherman,  
Kristen Vortruha

## *Adjunct Assistant Professors*

Kim Dunleavy, Nancy McNevin

## Graduate Certificate in Rehabilitation Sciences Administration

The Department of Physical Medicine and Rehabilitation encourages students to acquire knowledge of the patient as a person, not merely of his/her disease. The student is taught to assess the neuromuscular and musculoskeletal systems and to manage the disorders of these systems. In addition, a concept of rehabilitation is presented which considers not only the disease or injury that leads to chronic disability, but emphasizes the coordination of effective therapies and forces which will ameliorate the social, psychological and vocational problems created by the impairment. Teaching is conducted through lectures, demonstrations, staff conferences and seminars, with the major emphasis upon office practice instruction. Clinical instruction is provided at the Rehabilitation Institute of Michigan, the principal teaching facility of the Department and at the following institutions: DMC Children's Hospital, Detroit Institute for Children, Detroit Receiving Hospital, Grace Hospital, Harper Hospital, Oakwood Dear-

born, Oakwood Heritage, Karmanos Cancer Hospital, Sinai Hospital, and Veterans' Administration Hospital.

**Admission:** An admissions moratorium is currently in effect for this program.

## GRADUATE COURSES (R S)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7010 Survey of the Field of Physical Medicine and Rehabilitation. Cr. 1**

Social, political, technical, and economic factors that lead to the creation and current condition of the field of medical rehabilitation and the specialty of physical medicine and rehabilitation. (Y)

### **7202 Principles of Clinical Rehabilitation I. Cr. 1**

Basic evaluation methods and treatment modalities utilized with chronic disease states, physical disabilities, and musculoskeletal dysfunction. Research methodology relevant to clinical studies. (F)

### **7220 Psychological, Social and Vocational Aspects of Disability. Cr. 2**

Primary psychological, social and vocational issues which affect the rehabilitation of persons with physical disabilities. Assessment of need and identification of strategies useful in meeting those needs; current research and clinical practice. (B)

### **7240 Rehabilitation Research Methods. Cr. 3**

Major concepts of medical rehabilitation research methodology; use of research results and concepts to evaluate information for application in the practice of research. (Y)

### **7250 Rehabilitation Services Organization. Cr. 3**

Lecture and discussion on theories and concepts of medical administration: planning, marketing, operations, fiscal and personnel management, quality assessment and evaluation, as applied to rehabilitation services delivery. (Y)

### **8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: M.D. or D.O. degree; consent of instructor. Research and written presentation; testing of specific hypothesis dealing with method, concept, or data. (T)

# Physiology

Office: 5374 Scott Hall; 313-577-1520

Chairperson: Jian-Ping Jin

Website: <http://physiology.med.wayne.edu>

## Professors

Stephen E. DiCarlo, Joseph C. Dunbar, Jr., Bhanu P. Jena, Jian-Ping Jin, Robert Lasley, Jason H. Mateika, Robert M. Mentzer, Jr., Donal S. O'Leary, Karin Przyklenk, Jeffrey L. Ram, James A. Rillema, Noreen F. Rossi, Assia C. Shisheva, Daniel A. Walz

## Associate Professors

Steven E. Cala, Donald DeGracia, Debra F. Skafar, Douglas R. Yingst

## Assistant Professors

Xueque Chen, Patrick J. Mueller, Fei Sun

## Research Associate Professor

Tadeusz Scislo

## Research Assistant Professor

Javier Sala-Mercado

## Emeriti Faculty

Richard R. Gala, Felix T. Hong, David Lawson, John W. Phillis

## JOINT APPOINTMENTS

### Professors

Abdul Abou-Samra (Internal Medicine-Endocrinology), Safwan Badr (Internal Medicine-Pulmonary Critical Care), Michael Diamond (Obstetrics & Gynecology), John Flack (Internal Medicine), Robert Sokol (Obstetrics & Gynecology)

### Assistant Professors

Colleen Buggs-Saxon (Pediatrics), Rita Kumar (Emergency Medicine)

## ADJUNCT APPOINTMENTS

### Professors

William H. Beierwaltes (Henry Ford Hospital), Barry A. Franklin (Beaumont Hospital), Jeffrey L. Garvin (Henry Ford Hospital), Steven K. Keteyian (Henry Ford Hospital), Margot C. LaPointe (Henry Ford Hospital), Ida Llewellyn-Smith (Flinders University), David R. Pieper (Continuing Medical Education), Allen Silbergleit (St. Joseph Mercy Hospital)

### Associate Professors

Pablo Ortiz (Henry Ford Hospital), Nour-Eddine Rhaleb (Henry Ford Hospital)

### Assistant Professors

Janice A. Schwartz (MSU), Michael D. Wider (Sentio LLC)

### Instructor

Cheryl A. Jagoda

## ASSOCIATE APPOINTMENTS

Patrick Hines (Pediatrics), Takeshi Sakamoto (Physics), Thomas Sanderson (Emergency Medicine), Jinsheng Zhang (Otolaryngology)

## Graduate Degrees

*MASTER OF SCIENCE with a major in Physiology*

*DOCTOR OF PHILOSOPHY with a major in Physiology and an optional concentration in Reproductive Sciences*

Physiologists study the functions of living organisms, tissues and/or isolated cells. The emphasis in physiology is on the functional interrelationships between healthy, as opposed to diseased tissues, cells and sub-cellular components. Increasingly, the discipline focuses on the properties of single cells and their sub-cellular components with the availability and application of molecular biology techniques. However, whether at the level of the single cell or the whole organism, the aim of the physiologist is to understand complex functional interrelationships between body tissues.

## Master of Science and Doctor of Philosophy Degrees

The Department of Physiology offers programs leading to the Master of Science and Doctor of Philosophy degrees. Students planning a career in teaching or research in physiology are advised to complete the requirements for the Doctor of Philosophy degree. The degree of Master of Science is frequently the first step toward the Ph.D. degree.

**Reproductive Sciences Concentrations:** The Doctor of Philosophy concentration in reproductive science is an integrated program. It incorporates the teaching, research and physical resources of both the Physiology and the Obstetrics and Gynecology Departments, offering interdisciplinary doctoral training in the reproductive sciences with the degree earned through the Department of Physiology. This program allows students the unique opportunity to obtain a Ph.D. degree in a clinical environment. The curriculum represents an academic focus directed toward graduate education and research training in reproduction and development, with an emphasis in the following areas: developmental biology, perinatal biology, reproductive endocrinology, reproductive genetics, toxicology/teratology and molecular biology including genomics, proteomics, and bioinformatics. Dissertation research is typically performed under the mentorship of Obstetrics and Gynecology basic science graduate faculty.

**Admission** to these programs is contingent upon satisfying the requirements of the Graduate School (see page 18) and the Graduate Programs of the School of Medicine (see page 421). In addition, applicants for the Doctor of Philosophy degree are normally expected to have a personal interview with one or more members of the departmental graduate committee.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** The overall requirements for the Master of Science and Doctor of Philosophy degrees are set forth in the Graduate School section of this bulletin, see page 36. The master's degree is offered under Plan A only (as defined on page 36), for which the student must submit a thesis based on original research. Ph.D. students holding School of Medicine IBS (Interdisciplinary Biomedical Sciences) Fellowships typically complete the required IBS courses during their first two years of graduate study; these courses include:

### IBS Curriculum:

IBS 7010 -- Biomedical Molecular Biology: Cr. 5

IBS 7020 -- Biomedical Cell Biology: Cr. 5.

IBS 7040 -- Biomed. Cardiovascular, Renal and Respiratory Syst.: Cr. 2

IBS 7050 -- Biomedical Neurobiology: Cr. 2

IBS 7060 -- Biomedical Endocrine and Reproductive Syst.: Cr. 2

IBS 7080 -- Biomedical Gastrointestinal Systems & Nutrition: Cr. 1  
IBS 7090 -- Biomedical Immunology: Cr. 2.

Candidates for the Ph.D. are expected to conduct original research and prepare a dissertation commensurate with thirty credits of dissertation direction. The research supporting the dissertation generally is suitable for publication in one of the current scientific journals.

The thirty credit dissertation registration requirement is fulfilled by registering for the courses PSL 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

## Assistantships and Research

The Department has graduate assistantships and graduate research positions available for a limited number of qualified students. All doctoral students accepted into the program are considered for financial assistance and no application forms are necessary for this purpose. Students on assistantships typically take no more than ten credits in a given semester. All students, whether or not they hold a fellowship or an assistantship, are required to assist the graduate faculty in research and teaching activities as a component of their educational experience. For more complete information on fellowships, students should consult or write the Graduate Officer, Department of Physiology, Wayne State University School of Medicine, Gordon H. Scott Hall of Basic Medical Sciences, 540 East Canfield, Detroit, Michigan 48201.

## GRADUATE COURSES (PSL)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-5999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-5999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5010 Individual Research I. Cr. 2-5

Prereq: upper-division undergraduate standing as basic science major; or graduate standing in physiology. 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. (T)

### 5020 Individual Research II. Cr. 3

Open only to physiology graduate students. Offered for S and U grades only. Prereq: PSL 5010. Continuation of laboratory research in physiology under supervision of departmental faculty: learning experimental protocols and related scientific literature. (W)

### 5030 Individual Research III. Cr. 3

Open only to physiology graduate students. Offered for S and U grades only. Prereq: PSL 5020. Continuation of laboratory research in physiology under supervision of departmental faculty: learning experimental protocols and related scientific literature. (S)

### 5680 Basic Endocrinology. (BIO 5680) Cr. 3

Prereq: PSL 3220 or BIO 4120 or equiv., or coreq: PSL 7010. 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. (F)

### 6010 Physiology of Exercise II. (KIN 6310) (P T 6310) Cr. 3

Prereq: KIN 3570 or consent of instructor. 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. (F)

### 7010 Basic Graduate Physiology Lecture I. Cr. 4

Prereq: organic chemistry, introductory biology and physics, graduate program enrollment. Introduction to basic human physiology. (F)

### 7011 Basic Integrative Graduate Physiology I. Cr. 4

Open only to physiology or IBS majors. (F)

### 7020 Basic Graduate Physiology Laboratory I. Cr. 2

Prereq: enrollment in the graduate program in physiology. Introductory laboratory exercises to measure cell and membrane function; neuronal activity; electrophysiology; and hormonal actions. (F)

### 7030 Basic Graduate Physiology Lecture II. Cr. 4

Prereq: organic chemistry, introductory physics, biology background; current enrollment in graduate degree program. Functional mechanisms of the human body. (W)

### 7031 Basic Integrative Graduate Physiology II. Cr. 4

Open only to physiology or IBS majors. (W)

### 7040 Basic Graduate Physiology Laboratory II. Cr. 2 (Max. 4)

Prereq: enrollment in the graduate program in physiology. Experimental physiology of organ systems. (W)

### 7215 Nanobioscience. (CHE 7215) (CHM 7215) (PHY 7215) Cr. 3

Prereq: first year calculus, general chemistry. Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. (W)

### 7400 Advanced Respiratory Physiology. Cr. 2

Advanced topics in respiratory physiology; guidance in critical reading and discussion of the literature. (B:W)

### 7500 Developmental Physiology. Cr. 3

Prereq: general physiology, embryology. A study of organ physiology from the developmental viewpoint. (B:F)

### 7550 Advanced Renal Physiology. Cr. 2

Prereq: PSL 7010 or equiv. A detailed study of the physiological mechanisms promoting homeostasis of the body fluid volumes and ionic composition in the mammal. (B:F)

### 7590 Blood. Cr. 3

Prereq: PSL 7010, 7030. Details of blood enzymology including hemostasis, blood coagulation, complement system, and fibrinolysis. (B:W)

### 7600 Advanced Cardiovascular Physiology. Cr. 2

Prereq: PSL 7010. Basic principles of heart dynamics and control techniques in measurement of cardiac function. (F)

### 7610 Biological Basis of Sleep. Cr. 2

Prereq: PSL 7010 or equiv. Basic physiology of human sleep; role of sleep in cognitive and physical performance; sleep disorders (such as sleep apnea, narcolepsy). (B:W)

### 7640 Cell and Molecular Physiology. Cr. 3

Prereq: consent of instructor; and PSL 7010 or IBS 7020. 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. (B:W)

### 7660 Neurophysiology. Cr. 3

Prereq: PSL 7010. Anatomy and physiology of the neuron and the mammalian nervous system. Correlations of central nervous system functions and electrophysiology. (B:F)

**7680 Endocrinology. Cr. 4**

Prereq: PSL 7010 and 7030. A detailed emphasis on current research. Student participation encouraged; each student required to present a one hour lecture. (W)

**7690 Principles and Techniques of Reproductive Biology. Cr. 3**

Prereq: some knowledge of biology, genetics, embryology and molecular biology recommended. Principles and techniques in reproduction including endocrinology, gametogenesis, fertilization, implantation, embryogenesis, stem cell determination, pregnancy and parturition. (B:F)

**7700 Embryonic Stem Cell Biology. Cr. 3**

Prereq: PSL 7690 or consent of instructor. Methods involved in production and utilization of embryonic stem cells. Lectures supplemented with text, reviews, and recent papers. (B:W)

**7710 Disease States and Reproductive Processes. Cr. 1**

Open only to reproductive sciences students. Diseases and areas in reproductive medicine where additional research is required. Students accompany clinicians during rounds in hospital and out patient clinics. (S)

**7730 Reproductive Sciences: Teratology. (MTX 7730) 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. (B:F)

**7740 Developmental Systems in Reproductive Biology. (PSY 7740) Cr. 3**

Theoretical foundations course in development, emphasizing contemporary developmental systems theory and its relevant applications to biology. (W)

**7770 Perinatal Biology and Reproduction. Cr. 2**

Current areas of interest and research; basic science and clinical perspectives. (W)

**7775 Current Research Topics in Reproductive Science. Cr. 1**

Lectures covering current topics in reproductive biology, health, and medicine. (F)

**7880 Special Problems in Physiology. Cr. 1-8 (Max. 8)**

Prereq: plan of study. Topics individually arranged with faculty. (T)

**7890 Seminar. Cr. 1 (Max. 6)**

For graduate students in physiology. Participation in weekly departmental seminars. (F,W)

**7910 (MBG 7910) Molecular Male Reproduction and Chromatin. Cr. 1**

Prereq: written consent of instructor. Students write topic-specific essays based on examination content in lecture courses PSL 7010 or PSL 7030. (F)

**7996 Arranged Research. Cr. 1-15 (Max. 15)**

Prereq: plan of study. Graduate level experiences in research techniques. Special research topics in specified areas arranged with individual faculty member. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Open only to graduate students in physiology. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSL 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSL 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSL 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSL 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSL 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSL 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PSL 9991- PSL 9994. Offered for S and U grades only.



# Psychiatry and Behavioral Neurosciences

Office: UPC-Jefferson, 2751 E. Jefferson; 313-577-1808

Chairperson: David R. Rosenberg

Graduate Program Director: Jeffrey A. Stanley

Website (dept.): <http://www.medicine.wayne.edu/psychiatry/>

Website (Ph.D. program): <http://tnp.wayne.edu/>

## Professors

Nashaat Boutros, Beth Ann Brooks, Joseph Fischhoff (Emeritus), Robert Freedman, Matthew P. Galloway, James Granneman, Mark Greenwald, Joseph L. Jacobson, Sandra Jacobson, Donald Kuhn, William Lyman, David R. Rosenberg, Eugene Schoener, Charles Schuster (Emeritus), Natraj Sitaram, Manuel Tancer, Richard Young

## Associate Professors

Cynthia Arfken, Carl Christensen, Deborah Ellis, David Johnson, Robert MacKenzie (Research), Sylvie Naar-King, Steven Ondersma, John M. Rainey, Jeffrey A. Stanley

## Assistant Professors

Marla Bartoi, Jesse Bell, Michael Butkus (Research), Vaibhav Diwadkar, David Ledgerwood, Leslie Lundahl, Shane Perrine (Research)

## Clinical Professors

Richard Balon, Elliot Luby (Emeritus)

## Clinical Associate Professors

Jimmie P. Leleszi, Susan Stine

## Clinical Assistant Professors

Victor Ajluni, Alireza Amirsadri, Javaid Arrine, John Dziuba, Gabriella Geiszt, Elese Hairston, Shahid Hussain, Suzanne Keller, Rebecca Klisz-Hulbert, Leonard Lachover, Lori Lackman-Zeman, Lisa MacLean (Clinical-Educator), Georgia Michalopoulou, Kathleen Moore, Mary Morreale, Maria Ramirez Mary Roberts, Ashok Shah, Shibany Taormina, Angela Tzelepis, Eva Waineo

## Graduate Degrees

*MASTER OF SCIENCE with a major in Psychiatry*

*DOCTOR OF PHILOSOPHY with a major in Translational Neuroscience*

## M.D. Program Education

The Department of Psychiatry and Behavioral Neurosciences provides M.D. students with an awareness of psychiatric problems as they are experienced in the practice of medicine. The educational mission of the Department is to teach the knowledge base, skills, and professional attributes in psychiatry and behavioral neurosciences for future physicians to practice competently in any medical specialty.

This Department is active in the teaching of the medical student throughout all four years of training. The core curriculum in psychiatry is taught in the second and third year of medical school and includes:

Year II: Normal development and psychopathology

Year III: Clinical clerkship and didactic learning

Clinical psychiatry rotations are conducted at Detroit Receiving Hospital, Harper University Hospital, Henry Ford Health System, Providence Hospital, Sinai-Grace Hospital, University Psychiatric Centers, William Beaumont Hospital, and Veterans' Administration Medical Center. These rotation sites provide the student with experiences in a variety of clinical settings, including inpatient, partial hospitalization programs, consultation services, emergency room, and outpatient services. Faculty members also serve as course directors and participate in the teaching of interdisciplinary courses that span the four years of medical school, including clinical medicine (history and communication skills), human sexuality, and behavioral health longitudinal curricula (interpersonal violence, substance use disorders, preventative health and health maintenance).

## Master of Science with a Major in Psychiatry

The Master of Science with a Major in Psychiatry program provides formal research training in clinical psychiatry and basic sciences with clear training objectives. This program is designed for physicians and medical students interested in an academic or research career. The interdisciplinary program combines the clinical and training resources of the Department of Psychiatry and Behavioral Neurosciences and basic research training resources of the Translational Neuroscience Program. The core curriculum consists of clinical psychiatry, neurobiology, advanced topics in cellular and clinical neurobiology, statistics and research problems, and directed laboratory experience. An oral thesis defense is required. Individual curriculum plans and research projects will be developed for each student.

Physicians can enter the program at two different levels – either at the second year of their residency training in psychiatry (four year program: PGY II – PGY V), or at the first year of their research fellowship in psychiatry (two year program: PGY V – PGY VI). Medical students can enter the program at any point after finishing the first year of medical school. Physician applicants should have an M.D. or D.O. degree and have to be accepted to either a residency or two year research fellowship in psychiatry at Wayne State University School of Medicine psychiatry residency training program. Medical students have to be students in good standing at the Wayne State University School of Medicine.

Additional information can be obtained by contacting the Graduate Director, Psychiatry Master's Degree Program, University Psychiatric Center, 2751 E. Jefferson Avenue, Suite 200, Detroit, MI 48207; phone: (313) 993-3416, FAX: (313) 993-3422

## Doctor of Philosophy with a Major in Translational Neuroscience

The goal of the Translational Neuroscience Program (TNP) is designed to graduate outstanding Ph.D. scientists who possess a strong multidisciplinary background in the fundamental and applied concepts in molecular, cellular and systems neurobiology, developmental neuroscience, neuroimaging and neuropsychopharmacology as they relate to neuropsychiatric disorders. This distinctive orientation fosters the development of outstanding research scientists who are able to link advances in basic neuroscience with the assessment and treatment of clinical problems. This program creates a unique environment in which the student is exposed to an integrated syllabus of basic science, preclinical research, and clinical neurobiology, including cutting-edge neuroimaging technologies. In general, concepts of nervous system structure and function are presented not only as they interrelate as basic disciplines, but also as they relate to clinical neuroscience. For admissions and degree requirements see page 429.

## Assistantships

The Department has graduate assistantships available for a number of qualified students. All students accepted into the graduate program are considered for financial assistance, and no separate application forms are necessary for this purpose.

Additional information and requests for application material can be obtained by contacting the TNP Graduate Office, 2309 Scott Hall, 540 East Canfield, Detroit, Michigan 48201; (313) 577-5949; Fax: (313) 993-4269; lcbrown@med.wayne.edu.

## GRADUATE COURSES (PYC)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 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. (F)

### 7020 Neurobiology II. Cr. 3

Second part of a two-semester in-depth study of nerve cells, their organization into functional circuits and their mediation of normal and aberrant behaviors. (W)

### 7050 (ANA 7055) Biology of the Eye. (BIO 7055) Cr. 3

Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. (F)

### 7140 Fundamentals of Neuroimaging. Cr. 3

Overview of methods: PET, EEG/ERP/TMS, fundamentals of MR, structural MRI, functional MRI, MR spectroscopy and DTI. Review of the application of these methods in studying disorders of the nervous system. (W)

### 7150 Fundamentals of Neuropsychiatric Disorders. Cr. 3

Overview of pathophysiology, clinical manifestations, and treatment of major neuropsychiatric disorders. (S)

### 7320 MR Imaging of Neurovascular Disease. (BME 7720) Cr. 3

Open only to graduate students (BME, CHE, MSE, ECE, I E). 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. (B:F)

### 7500 Advanced Topics in Neuroscience. Cr. 1-6 (Max. 9)

Open only to Ph.D. students or students in psychiatry M.S. program. Prereq: consent of instructor. Topics offered each semester in one-credit modules, relevant to ongoing research in the degree program. (T)

### 7515 Advanced Topics: Imaging, Neurodevelopment and Psychiatric Disorders. Cr. 3

Open only to Ph.D. students. Advanced introduction to imaging neurodevelopment based on anatomical, biochemical and functional studies; focus on abnormal development of psychiatric disorders. (B:W)

### 7520 Molecular Biological Approaches in Neurobiology. Cr. 3

Prereq: PYC 7010 and 7020 recommended, or consent of instructor. In-depth analysis of molecular biological approaches used to probe nervous system function. Emphasis on recent methodological developments applied to brain analyses, including cell-specific monoclonal antibodies and cloning techniques. (B)

### 7540 Current Topics in Neurophysiology. Cr. 3

Prereq: PYC 7010, 7020, or consent of instructor. Comprehensive overview of neurophysiology with emphasis on contemporary techniques of neuronal recording, ionic mechanisms of membrane conductance and neurotransmitter modulation of neuronal activity. (B)

### 7550 Signal Transduction in Neuronal Tissues. Cr. 3

Prereq: PYC 7010 and 7020, or consent of instructor. Modern concepts of the biochemical and molecular biological bases of neuronal communication. (B)

### 7560 (PSY 8560) Models and Methods in Psychopharmacology. Cr. 3

Prereq: PSY 7120 or PSY 8060 or equiv, PSY 3060 or equiv, or consent of instructor. Psychological and biological bases of psychopharmacology; emphasis on methods, models and theories in basic preclinical research. (B)

### 7580 Substance Abuse. (PSY 8580) Cr. 3

Pharmacological principles, research methods, and scientific data regarding understanding and control of substance abuse. Epidemiology, etiologic factors, research methods and ethics, health consequences, prevention strategies, psychiatric diagnosis and comorbidity, treatment, policy issues and controversies. (Y)

### 7590 Clinical Training in Substance Abuse. Cr. 3

Prereq: completion of one year in master's-level clinical program (e.g., psychology, social work, psychiatry, counseling). Supervised training in substance abuse assessment, treatment, and therapy research. Includes clinical and didactic experiences. (T)

### 7890 Research Seminar. Cr. 1 (Max. 8)

Presentations by clinical and basic research staff and by the program's graduate students. (T)

### 7950 Psychology/Psychiatry Internship. Cr. 3

Offered for S and U grades only. Prereq: completion of graduate coursework in clinical, counseling, or school psychology; completion of 1500 hours of practica. 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. (T)

### 7990 Directed Study. Cr. 1-6 (Max. 10)

Independent study under the guidance of an advisor, including complete review of a problem area immediately relevant to basic or clinical neuroscience. (T)

### 7996 Research Problems. Cr. 3 (Max. 9)

Directed laboratory rotation for graduate students in the translational neuroscience program. (T)

### 7998 Clinical Neuroscience Rotation. Cr. 3

Prereq: PYC 7150. Neuroscience trainees become familiar with clinical issues in their chosen area of study; transfer of basic science knowledge to clinical application. (T)

### 8999 Master's Thesis Research and Direction. Cr. 1-8 (Max. 8)

Preparation in writing of a scholarly proposal and thesis. (T)

### 9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

### 9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

### 9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5

Prereq: PYC 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PYC 9991. Offered for S and U grades only.



**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

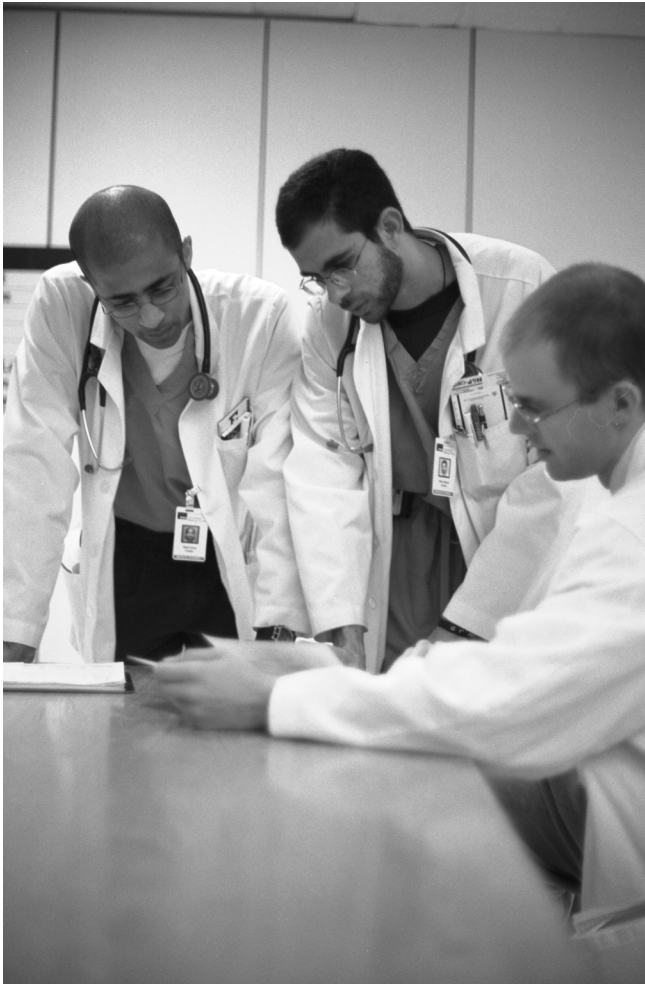
Prereq: PYC 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PYC 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PYC 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PYC 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PYC 9991- PYC 9994. Offered for S and U grades only.



# Radiation Oncology

*Office:* First Level, University Health Center; (132)62274  
*Chairperson:* Andre A. Konski  
*Website:* <http://www.med.wayne.edu/radonc>

## *Professors*

Neb Duric, Michael Joiner, Andre A. Konski, Colin G. Orton,

## *FTA Professor*

Jeffrey Forman

## *Adjunct Professor*

Di Yan

## *Associate Professors*

Jacob Burmeister, Gilda Hillman, Harold Kim,

## *FTA Associate Professors*

Stephen Brown, Indrin Chetty, Patrick McDermott, Teamour Nurushev

## *Adjunct Associate Professors*

Tewfik Bichay, Qiuwen Wu

## *Assistant Professors*

Kimberly Hart, Jennifer Holt, Jordan Maier, Steven Miller, Joseph Rakowski, Linda Rissman

## *Clinical Assistant Professors*

Sue Han, Jyung Kim

## *Adjunct Assistant Professors*

David Hearshen, Geoffrey Hugo, Tiezhi Zhang

## *Adjunct Instructors*

Janice Campbell, Wenzheng Feng, Thomas Kasza, Adrian Nalichowski, Vrinda Narayana, Donald Peck, Phil Rauch, Jeff Richer, Archana Somnay,

## Graduate Degrees

*MASTER OF SCIENCE with a major in radiological physics*

*DOCTOR OF PHILOSOPHY with a major in medical physics*

The website for the graduate programs in medical and radiological physics is located at: <http://www.med.wayne.edu/radonc/medphys>

The Radiation Oncology Department is responsible for the day-to-day care of cancer patients undergoing radiation therapy. The staff is actively involved in clinical research including participation in national studies and in the teaching of all aspects of cancer treatment and research throughout the School of Medicine and hospitals. Members of the Department staff are also active in radiobiology research. Medical students considering a specialization in radiation therapy should also elect to take courses in internal medicine, radiology and radiation physics. The residency program available in Radiation Oncology prepares candidates for certification in therapeutic radiology by the American Board of Radiology.

## Master of Science and Doctor of Philosophy Degrees

The Department of Radiation Oncology offers courses of study leading to a Master of Science degree in Radiological Physics or a Doctor of Philosophy degree in Medical Physics. (See the Department of

Radiology for courses, page 468.) Through courses, seminars, clinical internships, and laboratories, the programs provide experience in the following areas:

**Diagnostic Radiology:** Calibration, acceptance testing and quality assurance for a number of devices used in the fields of conventional radiology, ultrasound, digital radiology, and computed tomography (CT).

**Magnetic Resonance:** Principles of nuclear magnetic resonance (NMR); NMR spectroscopy; imaging in biology and medicine; instrumental design, operation, and maintenance; cryogen management; and the role of the medical physicist in clinical applications of NMR.

**Nuclear Medicine:** Assay of radionuclides, acceptance testing, quality assurance, and computer techniques for a variety of nuclear medicine equipment including emission tomography.

**Radiation Dosimetry:** Exposure, kerma, absorbed dose, dose equivalent. Bragg-Gray theory and the Spencer-Attix formulation. Detection and measurement methods including ionization chambers, TLD, calorimetry, ferrous sulfate, film, track etch, scintillators, Geiger-Mueller tubes. Microdosimetry, event size spectra, Rossi counters, applications to high LET dosimetry. Dosimetry protocols for high energy photons and electrons (TG 51), neutron and charged particle protocols.

**Radiation Safety:** Federal, state, and local regulations; instrumentation; patient and personnel dosimetry; shielding design; monitoring.

**Radiation Therapy:** Calibration; acceptance testing; quality assurance; radiation surveys; radiation room design; implant dosimetry; *in vivo* dosimetry; special devices; treatment planning; sealed sources; dose calculations. Practical experience with Co-60 units, linear accelerators, high dose rate remote after-loading, gamma knife, IMRT, neutron radiotherapy cyclotron, CT simulation, and a variety of dosimetry equipment in demonstrations and laboratories.

**Admission** to these programs is contingent upon admission to the Graduate School and the Graduate Programs of the School of Medicine; for requirements, see pages 18 and 421 respectively. A bachelor's degree in physics or a physical science is the preferred background for students entering these programs, although candidates with degrees in other scientific or technological specialties may be accepted provided they have an adequate education in physics and mathematics. Applicants with incomplete physics and/or mathematics backgrounds will normally be required to complete their preparation in these areas before acceptance into a program.

Course subjects appropriate to graduate work in medical and radiological physics include human anatomy and physiology, electronics, mechanics, nuclear physics, modern physics, radiological physics (applicable to all areas of radiology), radiobiology, radiation safety, computer science, and statistics.

**Scholarship:** All course work must be completed in accordance with the regulations of the Graduate School and the School of Medicine governing graduate scholarship and degrees; see sections beginning on pages 36 and 421, respectively.

**DEGREE REQUIREMENTS:** The Master of Science with a major in Radiological Physics is offered under Plan B as defined by the Graduate School on page 36. For course requirements, contact the Program Director.

The Ph.D. requires ninety credits beyond the baccalaureate including thirty credits of dissertation direction. The thirty credit dissertation registration requirement is fulfilled by registering for the courses RAD 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The Clinical Internship is required. The dissertation must be based on original research under the direction of a graduate faculty advisor.

## Assistantships and Research

The faculty of the medical physics graduate programs offers students ample opportunity to work on special projects, primarily of a research nature. A wide selection of interesting and fulfilling projects is available for master's essay or Ph.D. dissertation research.

The Department has graduate assistantships and graduate research positions available for a number of qualified full-time students. All students accepted into the graduate degree program are considered for financial assistance and no application forms are necessary for that purpose. Students on assistantships are advised to elect no more than twelve credits in a given semester. All students, whether or not they hold a fellowship or an assistantship, are required to assist the graduate faculty in teaching and research activities as a component of their educational experience.

## GRADUATE COURSE (ROC)

Effective Winter Term 2013 all RAD courses become ROC courses as listed below. All previous RAD prerequisites are cited herein as ROC prerequisite equivalents. The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5990 Directed Study in Medical Sciences. Cr. 1-4

Prereq: written consent of instructor arranged in semester preceding election of course. 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. (T)

### 5010 Introduction to Radiological Physics. Cr. 4

Prereq: PHY 2180, PHY 3300 or equiv. 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. (F)

### 6710 (PHY 6710) Physics in Medicine. (RAD 6710) Cr. 3

Required for B.S. in Biomedical Physics. Applications of physics in medicine including radioactivity; interaction of radiation in matter; x-ray, CT, MRI, ultrasound, and PET imaging; nuclear medicine; radiation oncology; nerve electrophysiology, electrocardiogram, pacemakers, and defibrillators. (W)

### 7000 Imaging Physics I. Cr. 4

Prereq. or coreq: RAD 5010. Basic theory of medical imaging. Introduction to magnetic resonance imaging and spectroscopy, ultrasound; diagnostic radiology: radiography, fluoroscopy, CT, digital radiography, and mammography. (F)

### 7010 Imaging Physics II: Nuclear Medicine. Cr. 2

Prereq: RAD 5010. Physics of nuclear medicine, with emphasis on imaging. (W)

### 7020 Physics of Radiation Therapy. Cr. 3

Prereq: RAD 5010. Lecture and demonstration in physics of radiation therapy. (W)

### 7040 Radiation Dosimetry. Cr. 2

Prereq: RAD 5010. Lecture and demonstration on principles of radiation dosimetry. Dosimetry of photons, electrons, neutrons and dose from radioactive materials. (W)

### 7050 Diagnostic Imaging Laboratory. Cr. 2

Prereq: RAD 7000. Open only to students in the M.S. program with a major in radiological physics. Practical laboratory exercises in ionometric and solid-state dosimetry techniques, quality assurance, and radiation safety for selected diagnostic imaging techniques. (W)

**7060 Applied Radiobiology in Radiological Science. Cr. 2-4**

Prereq: PHY 2180. Fractionation, oxygen enhancement ratio, characterization of neutron beams and heavy particles for radiation therapy, radiosensitivity within cell division. (F)

**7070 Radiation Safety. Cr. 2**

Prereq: RAD 5010. Lectures on radiation safety procedures and practices; governmental regulations on radiation safety. (S)

**7080 Radiotherapy Physics Laboratory. Cr. 2**

Prereq: RAD 7020 and 7040. Practical laboratory exercises in ionometric and solid-state dosimetry techniques, quality assurance procedures for selected radiation therapy and diagnostic radiological equipment. (S)

**7090 Biomedical Nuclear Magnetic Resonance. Cr. 2**

Prereq: PHY 2180, PHY 3300 or equiv. Principles of nuclear magnetism, absorption spectroscopy and NMR relaxation applied to NMR spectroscopy and imaging in biology and medicine. Instrumental design, operation and maintenance; cryogen management. (F)

**7110 Treatment Planning. Cr. 2**

Prereq: RAD 7020. 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. (F)

**7120 Radionuclide Therapy. Cr. 2**

Prereq: RAD 5010, 7020, and 7040. Development of radionuclide technology and its practical peaceful use from its discovery to the latest developments. (F)

**7130 Nuclear Medicine Physics Laboratory. Cr. 2**

Prereq: RAD 7010. Laboratory experiments calibration, Q.A., etc., on isotope generators, isotope calibrators, counting systems, spectrometers, cameras, spect and PET systems, Counting statistics, spectrum analysis. (S)

**7140 Medical Physics Clinical Internship. Cr. 0**

Prereq: RAD 7080 or 7130 or 7050. Offered for S and U grades only. At least twenty-four hours per week working as a junior medical physicist in a radiation oncology or radiology department under supervision of medical physicist. Checklist of mandatory and optional activities is completed; oral examination. (Y)

**7160 Advanced Imaging. Cr. 2**

Prereq: RAD 5010, RAD 7000. Advanced imaging principles for students pursuing careers in medical physics or any other profession related to diagnostic imaging. (W)

**7890 Seminar. Cr. 1 (Max. 3)**

Presentations by graduate students, staff, visitors with emphasis on topics relevant to radiation biophysics and radiological health. (T)

**7990 Directed Study. Cr. 1-5**

Independent study in the uses of new technologies in clinical radiology. (T)

**7999 Essay Direction. Cr. 3**

Preparation of an in-depth paper on a subject in radiological physics. (T)

**8990 Special Problems in Radiation Biophysics. Cr. 1-3 (Max. 6)**

Independent study in advanced topics to be selected by the student in consultation with instructor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: RAD 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following RAD 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

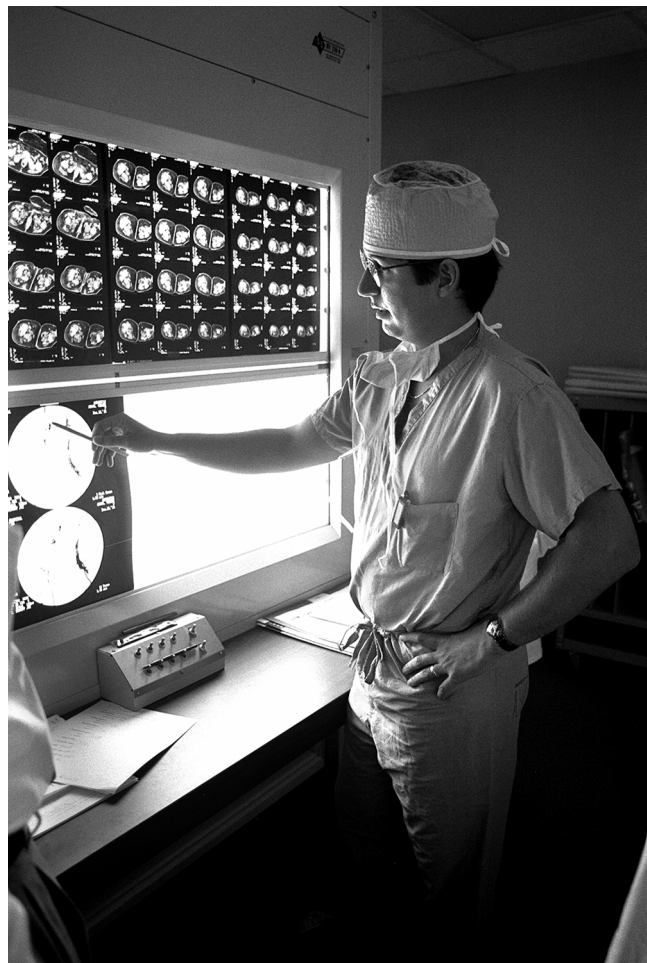
Prereq: RAD 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following RAD 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: RAD 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following RAD 9993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in RAD 9991- RAD 9994. Offered for S and U grades only.



# Radiology

Office: 3L-8, Detroit Receiving Hospital; (132)5-3430  
Chairperson: Wilbur L. Smith  
Website: <http://www.med.wayne.edu/radiology/>

## *Professors*

Harry T. Chugani, E. Mark Haacke, Wilbur L. Smith

## *Professors (Clinical), Full-Time Affiliate*

Peter J. Littrup, Thomas L. Slovis, J. Michael Zerlin

## *Clinical Professors*

Manuel Brown, Lawrence Davis, Kastytis Karvelis, Suresh Patel, Ali Shirkhoda, Marnix VanHolsbeeck, Alkis Zingas

## *Associate Professors*

Diane Chugani, Albert Goldstein, Jiani Hu, Hamid Soltanian-Zadeh

## *Associate Professors, Full-Time Affiliate*

Thomas J. Mangner, Otto Muzik, Rajinder Sharma, Imad Zak

## *Associate Professor (Clinical), Full-Time Affiliate*

John K. Kelly

## *Clinical Associate Professors*

David Bloom, Joseph Craig, Kathleen A. McCarroll, Duane Mezwa, Rojanandham Samudrala

## *Assistant Professor*

Yu-Chung (Norman) Cheng

## *Assistant Professors (Clinical), Full-Time Affiliate*

Maysoon Al-Hihi, Farajallah Al-Kass, Deniz Altinok, Cristie J. Becker, Stephanie Bolger-Theut, Pulak Chakraborty, Jeffrey Critchfield, Subhash Chander, Daniel Eggleston, Carmen Endress, Zarina Galaria, Gary Galens, Jerry Glowniak, Denise G.K. Gray, Cheryl Grigorian, Monte Harvill, Gerald Hillman, Samuel C. Johnson, Aparna Joshi, Richard N. Joyrich, Rehana N. Kapadia, Karl Kish, Richard Krikorian, Ho Kyu Lee, Tao Li, Thomas A. Matthys, Peter R. Miller, J. Jay Mittner, Yogesh S. Mody, Gregory Moore, Krishna K. Nayak, William Powell, Michael Salomon, Prasantha Sarcar, Swati Shah-Mody, Mahendra Shah, Yash Shah, Cristina Torres, Wassem Ullah, Gregg Warren, Daniel J. Walz, Zhishu Zhang

## *Clinical Assistant Professors*

Anthony Alcantara, Saleem Azad, Helena Balon, Kathleen Barry, Kostaki Bis, David Bloom, John Bonnett, Mark Burnstein, Daniel L. Croteau, Louan Cuzzort, Nancy Gregory, Martin L. Gross, Sharon Helmer, Rajan Jain, Chris Kazmierczak, Hugh Kerr, Sambasiva Kottamasu, Alfredo Lazo, Vjekloslav Mikelic, Mitchell Pace, Vidya Pai, Ramesh Rao, William Romano, James E. Selis, Katharine Scharer, Anil Shetty, Ronald Sparschu, Eric Spickler, Scott Sturza, Kurt Tech, Rennard Tucker, Glenn Webster, Robert Weinfeld, Pierre A. Zayat

## *Clinical Instructors*

Fernando Azarcon, Kaleford Hong, Ranjit Jain, Rojanandham Samudrala, Sheena Saleem

## *Instructor (Clinician-Educator) — Full-Time Affiliate*

Shahida Danier

## *Adjunct Assistant Professor*

Anil Shetty

## Graduate Degrees

*MASTER OF SCIENCE with a major in Radiological Physics*

*DOCTOR OF PHILOSOPHY with a major in Medical Physics*

M.D. program instruction by this department is directed toward a total integration of the fundamentals of radiology with the basic sciences, particularly anatomy, physiology, chemistry and pathology. Radiologic instruction is correlated at the M.D. Year I and II levels with other departments. Year III-level instruction is clinically oriented and numerous radiologic electives are offered in Year IV. Various diagnostic imaging techniques such as conventional radiographic procedures; radionuclide imaging, both static and dynamic; ultrasonography; computerized tomography, MR; and digital subtraction radiography are included in both the undergraduate and graduate level of instruction. The pre-clinical program has been designed to orient the anatomy student to normal roentgen anatomy and also to relate this to aspects of physical diagnosis. There is further coordination in anatomy and physiology to emphasize function and in turn relate this to aspects of history taking. In the fields of physiology and physiologic chemistry, radioactive isotope techniques are presented relating particularly to endocrine functions, renal functions and blood formation. Correlated teaching is also carried in gross pathology.

In the clinical years, teaching of diagnostic radiology, radiation therapy, nuclear radiology, computerized tomography, MRI, and ultrasonography is related to total patient care and such teaching is, therefore, predominantly correlated with other clinical departments. The clinical aspects of diagnostic radiology, radiation therapy and radionuclide procedures and techniques are taught during clerkship and in the clinics and various inter-departmental and intra-departmental conferences.

**Graduate Degree Programs:** The Department of Radiology collaborates with the Department of Radiation Oncology to offer courses of study leading to a Master of Science degree in Radiological Physics or a Doctor of Philosophy degree in Medical Physics. Students should refer to that department (page 465) for program descriptions and an outline of admission and degree requirements.

**Assistantships and Research:** see Department of Radiation Oncology, page 465.

## Graduate Courses (RAD)

Effective Winter Term 2013 all RAD courses become ROC courses., see page 466

# Surgery

Office: 6th Floor, University Health Center; 313-577-5013

Chairperson: Donald Weaver

Website: <http://www.med.wayne.edu/surgery>

## Professors

Frank Baciewicz, Marc Basson, David L. Bouwman, Lawrence Diebel, Scott Dulchavsky, Scott Gruber, Michael D. Klein, Anna M. Ledgerwood, Charles E. Lucas, Robert M. Mentzer Jr., David S. Nathanson, Daniel J. Reddy, Jeffrey R. Rubin, Vishwanath Sardesai, Alexander Shepard, Allen Silbergleit, Yvan J. Silva, Christopher P. Steffes, Larry W. Stephenson, Choichi Sugawa, James Tyburski, Vic Velanovich, Henry Walters, Donald W. Weaver, Robert F. Wilson

## Clinical Professors

Agustin Arbulu, O. William Brown, Laurence Y. Cheung, Mehdi Hakimi, Waldo Cain, , Andris Kazmers, Mark Mattos, Kevin D. Nolan, Juan Parodi, Fredrick Rector, Homer Smathers, Michael Wood

## Associate Professors

Marwan S. Abouljoud, Chenicheri Balakrishnan, Arthur Carlin, M. M. Gazayerli, David H. Gorski, Kenneth Granke, Eti Gursel, Zane Hammoud, M. Salik Jahania, Mary Ann Kosir, Julian Losanoff, Madhu Prasad, Arlene Rozzelle, Charles Shanley, , Steven Tenenber, Anil Wali, Miguel West

## Clinical Associate Professors

Susan E. Adelman, Federico A. Arcari, Ingida Asfaw, Joseph S. Bassett, Richard A. Berg, Jason H. Bodzin, Joseph Buck, Michael Busuito, Elizabeth Dawe, Donald Ditmars, Jeffrey Falk, Thomas Flake, Darla Granger, J. William Gross, Keith Hinshaw, Khatchadour Hamamdjian, Michael Jacobs, Ali Kaf, Joseph Lelli, Jr., Larry Lloyd, Robert J. Lucas, Vijay Mittal, Eduardo Phillips, Richard Reynolds, Krishna Sawhney, Thomas Siegel, Joe G. Talbert, Narendra Tyagi

## Assistant Professors

Tariq Awan, Ramesh B. Batchu, Alfred Baylor, Keiva L. Bland, Andrew Chen, Heather Dolman, David A. Edelman, Ali Elhorr, Anthony J. Falvo, Ruben Gomez, Einas Joseph, Dean Yonghoon Kim, Thomas E. Knuth, Scott Laker, Scott Langenburg, Chong Suh Lee, Michael S. Malian, Vinod Narra, Guillermina Nava, Aml Raafat, Craig A. Reickert, Yevgeniy Rits, Walter A. Salwen, Christina Shanti, Aamir Siddiqui, Eric J. Szilagy, Paul Stockman, John Webber, Matthew Weiner, Michael White

## Clinical Assistant Professors

King Ang, Dimitrios Apostolou, Zacarias G. Asuncion, Jr., Daniel Bacal, Roberta Barbosa, John Barnwell, Carl Bergen, Norman Bolz, Paul G. Bove, Tamer Boules, Lauran Bryan, Luis Camero, John Chacko, Hyun Chang, Chairat Chomchai, Reza Dabir, Vigen B. Darian, Linda M. DuBay, Elango Edhayan, Lorenzo Ferguson, Lisa Flynn, Robert A. Forte, Maurice Frankel, Paul Friedman, Gary Goodman, Yusef Goriel, George K. Haddad, Mohamad Hakim, Abdelkader Hawasli, Michael Heuton, Joseph Hildebrand, Robert J. Holmes, Herman Houin, John Hramiec, Hubert Huebel, John A. Ingold, Jean A. Jaffke-Whitney, Robert P. Jury, Richard D. Keidan, William Kestenber, Ramachandra Kolachalam, Peter Kowynia, Yash Lakra, JoAnne Levitan, Michael Lodish, W. Graham Long, David R. Lorelli, James Lulek, Hayward C. Maben, Jeffery McFadden, Bruce McIntosh, Alasdair McKendrick, Michael McPhee, , Ahem Meguid, Mehul Mehta, Michael Meininger, Shreepad Naik, Andre Nunn, Timothy J. Nypayer, William F. Oppat, Paraskevi Orfanou, Abhilash Pandya, Ralph Pearlman, Shivana Prakash, Pritham Reddy, Paul Rizzo, Jerry Ilan Rubinfeld, Marc P. Sakwa, Michael J. Schenden, Donn Schroder, Susan Seman, Kenneth Shaheen, Sumet Silapaswam, Allen Telmos, Edward Treisman, You-Wen Tsai, Oscar C. Tumacder, Fuad Turfah, Rahul Vaidya, Satish C. Vyas, Bruce Washington, Cheryl A. Wesen, James Whitten, A. Neal Wilson, Leroy Wirthlin, Steven M. Wolf

## Clinical Instructors

Edward Burke, Ronald A. Rusko, Richard Singer, Maciej Uzieblo

## Adjunct Professor

Gregory Auner,

## Adjunct Associate Professor

Steven Salley

## Adjunct Assistant Professors

Amer Almohssen, Howard Matthew

The main objectives of the Department of Surgery are to relate the principles of the basic sciences to clinical practice and to impart the details of patient care in light of modern physiological and pharmacological knowledge. Emphasis is on understanding of the deranged metabolic processes occasioned by surgically treatable disease and physical trauma, the translation of these into recognizable symptoms and signs and the rational correlation of therapy with these basic disturbances. Surgery is taught as only one aspect of patient care and emphasis is placed on the relationship of the surgeon to other personnel who form part of the health care team. As part of their education, students are part of the resident care team and are assigned patients for study.

With the unusually broad spectrum of diseases treatable by surgical methods present in the Wayne State University affiliated hospitals, students have contact with oncological, vascular and gastrointestinal problems. Students obtain a wide clinical experience at Detroit Receiving and Harper University Hospitals. During their third year, they may also select to rotate to one of the other affiliated hospitals such as Henry Ford Hospital, Oakwood Hospital, St. Joseph Mercy Hospital, St. John's Hospital and Medical Center, VA Administration Hospital and William Beaumont Hospital.

Students are encouraged to participate in experimental and clinical research programs with staff supervision during their senior elective periods and summer vacations. The program is designed to provide the student with the opportunity to develop career interests in surgery at an early stage in their education.

# Urology

Office: 4201 St. Antoine, UHC-7C Detroit, Michigan 48201;  
(313) 577-5222

Chairperson: Michael L. Cher

## *Professors*

Michael L. Cher, J. Edson Pontes, Isaac J. Powell, Ajay Singla, George Steinhardt

## *Associate Professors*

Daniel R. Bonfil

## *Assistant Professors*

Sreenivasa Chinni, Jeffrey A. Triest, Steven Lucas, Nivedita Dhar

## *Adjunct Clinical Faculty*

Anthony Adeleye, Muzammil Ahmed, Theodore Barber, Robert Dimitriou, Tewodros Fessaha, Rene Frontera, Jay Hollander, Ramarao Kaza, Vijay Kotha, George Lightbourn, Stephen Liroff, Peter Littrup, William Nutting, Brian Roelof, Richard Sarle, Edward Schervish, Dinesh Telang

M.D. program instruction in the field of urology begins in the M.D. Year I with the physical diagnosis course. Students receive lecture and laboratory instruction on the male genitourinary physical examination. Instruction continues in Year III with a series of lectures. Students receive these lectures as part of their general surgery curriculum. These lectures incorporate the fundamental concepts of the disease processes which affect the genito-urinary system. The lectures attempt to integrate the physiologic and anatomic mechanisms of urological disorders, their clinical presentations, and contemporary treatment strategies and outcomes. Clinical electives in urology are offered to students in their third/junior and fourth/senior years of medical school training. The electives are arranged in four week blocks. Rotations on the urology service can be tailored to the individual student. Students may also spend time in the various office clinics within the Department of Urology to broaden their experience.

# College of Nursing

DEAN: Barbara K. Redman

# Foreword

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 that 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 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 and master's programs of the College are accredited by the Commission on Collegiate Nursing Education (CCNE). The graduate nurse-midwifery specialty is accredited by the ACNM Accreditation Commission for Midwifery Education (formerly ACNM Division of Accreditation) 8403 Colesville Road, Suite 1550; Silver Spring, MD; 240-485-1800. The Doctor of Nursing Practice (DNP) program is accredited by the Commission on Collegiate Nursing Education (CCNE).

## Graduate Degrees

*MASTER OF SCIENCE in Nursing*  
with a clinical major in:

*Adult Acute and Critical Care Nursing*

*Adult Primary Care Nursing*

— *Gerontological Nurse Practitioner*

*Advanced Practice Nursing with Women, Neonates, and Children*

— *Women's Health Nurse Practitioner*

— *Certified Nurse-Midwife*

— *Neonatal Nurse Practitioner*

— *Pediatric Nurse Practitioner- Primary Care*

— *Pediatric Nurse Practitioner- Acute Care*

*Psychiatric Mental Health Advanced Practice*

*Community Health Nursing*

*GRADUATE CERTIFICATE in Complementary Therapies in Healthcare*

*GRADUATE CERTIFICATE in Nurse-Midwifery*

*GRADUATE CERTIFICATE in Nursing Education*

*GRADUATE CERTIFICATE in Pediatric Acute Care Nursing*

*GRADUATE CERTIFICATE in Pediatric Primary Care Nursing*

*GRADUATE CERTIFICATE in Psychiatric Mental Health Nurse Practitioner*

*GRADUATE CERTIFICATE in Transcultural Nursing*

*GRADUATE CERTIFICATE in Women's Health Nursing*

*DOCTOR OF NURSING PRACTICE*

*DOCTOR OF PHILOSOPHY in Nursing*

*DOCTORAL DEGREES (either of the above) with a dual title in Infant Mental Health*

## College Directory

*Dean:* 112 Cohn; 313-577-4070

*Office of Academic Affairs:* 230 Cohn; 313-577-4138; 800-544-3890

*Office of Student Affairs:* 10 Cohn; 313-577-4082; 888-837-0847

*Center for Health Research:* 315 Cohn; 313-577-4134

*Administrative Manager:* 100 Cohn; 313-577-4086

*Web:* <http://www.nursing.wayne.edu>

*E-mail:* [nursinginfo@wayne.edu](mailto:nursinginfo@wayne.edu)

MAILING ADDRESS FOR ALL OFFICES:

College of Nursing,  
Wayne State University,  
5557 Cass Avenue  
Detroit, Michigan 48202



# Master of Science in Nursing (MSN)

## Admission Requirements

Admission to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Additionally, students must satisfy the following criteria mandated by the College:

1. The applicant must have completed a National League for Nursing (NLN) or Commission on Collegiate Nursing Education (CCNE) accredited baccalaureate program in nursing with a grade point average (g.p.a.) of 3.0 or above in the upper division course work. A qualified admission may be authorized if an applicant's g.p.a. is between 2.80 and 2.99 and there is substantial evidence of extra-scholastic qualifications of such merit as to warrant special consideration.
2. Verification of professional competence as documented by three references.
3. Possession of a current Michigan Registered Nurse Licensure. All applicants educated outside the U.S. must be certified by the Commission on Graduates of Foreign Nursing Schools (CGFNS). Contact CGFNS, 3600 Market St., Philadelphia PA 19104-2651 or <http://www.cgfns.org> to request a certification application, or call: 215-349-8767. Verification of a student's CGFNS certification must be forwarded to the State of Michigan Board of Nursing by the CGFNS in order to take the RN licensure examination.
4. A personal statement of goals for graduate study.
5. An interview with a faculty member may be requested.

There may be additional requirements in each of the clinical major areas. Please refer to the course descriptions and consult with a faculty member for specific prerequisites.

**Application:** All new applicants must submit two application forms: 1) The Wayne State University Application for Graduate Admission and 2) the College of Nursing Application for Admission to the Master of Science in Nursing Program. Applications are available at: <http://www.gradadmissions.wayne.edu> and the College of Nursing's website: <http://www.nursing.wayne.edu>. Applications, including all supporting documentation, must be received in the appropriate offices by the posted deadline dates. Deadline dates for submission of application materials are:

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

Some programs (D.N.P. and Ph.D.) only admit students to begin study in the Fall term. In addition, those interested in full-time study are also encouraged to apply for Fall term admission.

**Readmission:** The master's student who withdraws from the program in good standing for one or more years should contact the Office of Student Affairs, College of Nursing, one semester prior to the semester for which re-enrollment is desired. Following a review by the Office for Academic Affairs, the student will be informed of the steps needed to qualify for readmission.

**Revalidation of Credit:** The College of Nursing reserves the right to revalidate all credits in the clinical nursing sequence which are over three years old or any other credits earned at Wayne State University which are between six and ten years old. Additional credits for degree completion may be required. Such authority rests with the Graduate Officer of the College of Nursing.

### *RN — M.S.N. Program*

(An admissions moratorium is currently in effect for this program.)

The RN to M.S.N. Completion Program combines baccalaureate and master's degree programs for academically-talented nurses. It consists of two separate and distinct components: the B.S.N. component and the M.S.N. component. Upon completion of the B.S.N. program students may apply fifteen graduate credits toward the M.S.N. degree. Students must apply to Graduate Admissions and meet the requirements for admission as listed on page 18. The Master's of Science in Nursing can be earned after additional twenty-one to thirty-four credits (course requirements vary by area of study) are completed. Requirements for the B.S.N. degree are listed in the Wayne State University Undergraduate Bulletin.

**Admission:** (An admissions moratorium is currently in effect for this program.) Students are admitted to this program through the regular undergraduate admission procedures, as set forth in the Wayne State University Undergraduate Bulletin. Students considering a M.S.N. program should contact the Office of Student Affairs at (313) 577-4082 prior to planning your studies. Additionally, students must satisfy the following criteria required by the College:

1. Completion of College of Nursing Undergraduate application initially and the Graduate Application during last year of undergraduate study.
2. Completion of an associate degree or diploma in nursing with a grade point average (g.p.a.) of 3.0 or above.
3. Current registered nurse licensure in Michigan.
4. Applicants pursuing the M.S.N. degree must meet the admission requirements of the Graduate School, see page 18. Students are required to have a grade point average of 3.0 or above at the time of application to the Graduate School.
5. Students are requested to have a *Plan of Work* to pursue advanced nursing practice at the master's level.

## Master's Degree Requirements

Candidates for the Master of Science in Nursing (M.S.N.) must complete forty to forty-seven credits of study. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 485, respectively. Credits must be normally distributed as follows:

Clinical Nursing Sequence: Cr. 18-24  
Supporting Courses: Cr. 10-16  
Master's Core Courses: Cr. 13

All M.S.N. programs involve some particular concentration as enumerated in the list of College degrees on page 472. Concentrations currently available to satisfy these requirements are detailed below. Cognates, which are clinically specific, are predetermined by selection of the clinical nursing sequence and will be found as part of the clinical areas. Students should inquire about possible additional offerings. All programs are subject to periodic revision.

All M.S.N. students must elect a series of courses that will prepare him/her to be competent in the utilization of research findings. To develop these skills, the student completes courses in inferential statistics and research methods in nursing before conducting a study that includes the scientific analysis of data.

**Plan of Work:** With the approval of the advisor, the student develops and files a *Plan of Work* prior to completion of twelve graduate credits at Wayne State University. A student must have a minimum 3.0 grade point average in order to have a *Plan of Work* accepted by the Graduate Officer. Each *Plan* must include the course requirements for the clinical nursing sequence and intended degree. It is the responsibility of the student to file any changes in the *Plan of Work*.

**Time Limitations:** Students have six years to complete requirements. The six-year limit begins from the end of the semester during which the student has taken course work applicable toward meeting

the requirements of the degree; this may occur before the student is regularly admitted to the major.

## Adult Acute and Critical Care Nursing

*(Minimum of forty-two credits required)*

(An admissions moratorium is currently in effect for this program.)

The Master of Science in Nursing degree with a major in Adult Acute and Critical Care Nursing prepares the nurse for advanced practice in the care of physically ill adults. Emphasis is on adults with existing and/or potential physiological alterations and their concomitant developmental and psychosocial needs. Clinical practicum sites are individualized based on the student's identified goals and area of clinical interest. The curriculum develops the advanced practice nurse's roles of practitioner, educator, and clinical scholar through education in rigorous and consistent diagnostic reasoning and theory-based practice. The analysis, critique, and utilization of nursing and biopsychosocial theory and constructs are also reviewed. Graduates are eligible to take the American Nurses Credentialing Center (ANCC) Acute Care Nurse Practitioner certification examination.

### *M.S.N. Adult Acute Care Nurse Practitioner (Required Courses)*

#### **Master's Core Courses: 13 credits**

NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 18 Credits**

NUR 7130 -- APN: Oncology, Mental Health, and Lifestyle Change: Cr. 6  
NUR 7140 -- APN: Mgt. of Cardiopulmonary and Renal Probs.: Cr. 6  
NUR 7370 -- APN: Mgt. of Neurological, Endocrine and Musculo-Skeletal Problems: Cr. 6

#### **Pre-clinical Courses: 5 Credits**

NUR 7030 -- Advanced Nursing Assessment: Cr. 5

#### **Cognates: 6 Credits**

NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3  
NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Adult Primary Care Nursing

*(Minimum of forty-four credits required)*

(An admissions moratorium is currently in effect for this program.)

The Master of Science in Nursing degree with an Adult Primary Care Nursing specialty prepares the adult nurse practitioner in primary care. The focus of the clinical sequence is on the adult and adolescent client and his/her response to actual or potential health care needs. Primary care includes the assumption of accessible, accountable, comprehensive, coordinated first-contact care, as well as longitudinal management. Opportunity is provided to study the theoretical foundation of nursing practice with the development of practice models of primary care. Advanced assessment and diagnostic reasoning are taught as the basis for nursing management. The study and practice of gerontological nursing are integrated in the clinical sequence. Emphasis is placed on the development of clinical judgment in health promotion as well as in the nursing management of acute and chronic health problems. Clinical practicum is implemented in a variety of settings, including an autonomous primary care nursing center. Graduates are eligible to sit for the Adult Primary Care Nurse Practitioner exam through the American Nurses Credentialing Center (ANCC) or the American Academy of Nurse Practitioners (AANP).

### *M.S.N. Adult Primary Care Nurse Practitioner (Required Courses)*

#### **Master's Core Courses: 13 Credits**

NUR 6510 -- Health Economics, Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 21 Credits**

NUR 7155 -- Primary Prevention Strategies in Primary Care: Cr. 7  
NUR 7165 -- Clinical Decision Making in Primary Care: Cr. 7  
NUR 7175 -- Primary Care Management and Evaluation: Cr. 7

#### **Pre-clinical Courses: 4 Credits**

NUR 7030 -- Advanced Nursing Assessment: Cr. 4

#### **Cognates: 6 Credits**

PTH 7500 -- Systemic Pathophysiology: Cr. 3  
NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3  
NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## — Gerontological Nurse Practitioner

*(Minimum of forty-seven credits required)*

(An admissions moratorium is currently in effect for this program.)

The Master of Science in Nursing degree with a Gerontological Nurse Practitioner specialty prepares the nurse practitioner in primary care of the older adult. The focus of the clinical sequence is on the older adult client and his/her response to actual or potential health care needs. Primary care includes the assumption of accessible, accountable, comprehensive, coordinated first-contact care, as well as longitudinal management. Opportunity is provided to study the theoretical foundation of nursing practice with the development of practice models of primary care. Advanced assessment and diagnostic reasoning are taught as the basis for nursing management. Emphasis is placed on the development of clinical judgment in health promotion as well as in the nursing management of acute and chronic health problems. Clinical practicum is implemented in a variety of settings, including a geriatric center of excellence, long-term care settings and assisted living environments. Graduates are eligible to sit for the Gerontology Primary Care Nurse Practitioner exam through the American Nurses Credentialing Center (ANCC).

### *M.S.N. Gerontological Nurse Practitioner (Required Courses)*

#### **Master's Core Courses: 13 Credits**

NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 24 Credits**

NUR 7155 -- Primary Prevention Strategies in Primary Care: Cr. 7  
NUR 7165 -- Clinical Decision Making in Primary Care: Cr. 7  
NUR 7175 -- Primary Care Management and Evaluation: Cr. 7  
NUR 7415 -- Physical and Psychosocial Issues in Aging: Cr. 3

#### **Pre-clinical Courses: 4 Credits**

NUR 7030 -- Advanced Nursing Assessment: Cr. 4

#### **Cognates: 6 Credits**

NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3  
NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Advanced Practice with Women, Neonates and Children — Women's Health Nurse Practitioner

*(Minimum of forty-seven credits required)*

*(An admissions moratorium is currently in effect for this program.)*

The Master of Science in Nursing degree with a major in Advanced Practice Nursing with Women, Neonates and Children (APNWNC) prepares nurses for advanced practice in the care of women. The WHNP specialty curriculum combines both broad foundational knowledge essential for the care of women as a vulnerable population and specialty knowledge in women's health. Attention is given to health promotion, prevention of disease, and disability. The goal of this innovative program is to prepare advanced practice nurses who will promote the health and development of women as individuals and as population groups encountering changing healthcare systems within urban and global environments. Upon program completion, WHNP students are eligible to take a certification examination through the National Certification Corporation (NCC).

*M.S.N. Women's Health Nurse Practitioner  
(Required Courses)*

### **Master's Core Courses: 13 Credits**

- NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3
- NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4
- NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3
- NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

### **Clinical Course Sequence: 24 Credits**

- NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 8
- NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8
- NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

### **Supporting Courses: 4-10 Credits**

- NUR 7030 -- Advanced Nursing Assessment: Cr. 4-5
- NUR 7555 -- Pharmacotherapeutics for Advanced Health Practice: Cr. 3
- NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Nurse-Midwifery

*(Minimum of forty-seven credits required)*

The Master of Science in Nursing degree with a major in Advanced Practice Nursing with Women, Neonates and Children (APNWNC) prepares nurses for advanced practice in the care of women and newborns. The CNM specialty curriculum combines both broad foundational knowledge essential for the care of women and newborns as vulnerable populations and specialty knowledge in women's health, newborn care and nurse-midwifery. Attention is given to health promotion, prevention of disease, and disability. The goal of this innovative program is to prepare advanced practice nurse midwives who will promote the health and development of women and newborns as individuals and as population groups encountering changing healthcare systems within urban and global environments. Upon program completion, nurse-midwife students take the American Midwifery Certification Board (AMCB) examination. The graduate nurse-midwifery concentration is accredited by the Accreditation Commission for Midwifery Education (ACME) 8403 Colesville Road, Suite 1550; Silver Spring, MD, 240-485-1800.

*M.S.N. Certified Nurse-Midwife (Required Courses)*

### **Master's Core Courses: 13 Credits**

- NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3
- NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4
- NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3
- NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

### **Clinical Course Sequence: 24 Credits**

- NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 8
- NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8
- NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

### **Supporting Courses: 4-10 Credits**

- NUR 7030 -- Advanced Nursing Assessment: Cr. 4
- NUR 7555 -- Pharmacotherapeutics for Advanced Health Practice: Cr. 3
- NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Pediatric Nurse Practitioner — Primary Care

*(Minimum of forty-seven credits required)*

The Master of Science in Nursing degree with a major in Advanced Practice Nursing and a primary care pediatric focus prepares nurses for advanced practice in the care of children and adolescents. The goal of this innovative program is to prepare advanced practice nurses who will promote the health and development of children and adolescents as individuals and as population groups encountering changing healthcare systems within urban and global environments. Graduates of the program are prepared to provide pediatric primary health care including health maintenance, anticipatory guidance, well-child examinations, developmental screening, and diagnosing and managing common and complex health/illness conditions. The curriculum combines both broad foundational knowledge essential for the care of children as a vulnerable population, as well as specialty knowledge in pediatrics. Special emphasis is given to the primary care of children with chronic complex conditions. Attention is also given to health promotion, prevention of disease and disability, treatment, clinical management, and patient- and family-centered care in a variety of settings including primary care clinics, specialty clinics, and community environments. Upon program completion, students are eligible to take a certification examination through the Pediatric Nursing Certification Board (PNCB) or the American Nurses Credentialing Center (ANCC).

*M.S.N. Pediatric Nurse Practitioner - Primary Care  
(Required Courses)*

### **Master's Core Courses: 13 Credits**

- NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3
- NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4
- NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3
- NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

### **Clinical Course Sequence: 24 Credits**

- NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 8
- NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8
- NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

### **Supporting Courses: 4-10 Credits**

- NUR 7030 -- Advanced Nursing Assessment: Cr. 4
- NUR 7207 -- Pediatric Pharmacology: Cr. 3
- NUR 7555 -- Pharmacotherapeutics for Advanced Health Practice: Cr. 3
- NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Pediatric Nurse Practitioner — Acute Care

*(Minimum of forty-seven credits required)*

The Master of Science in Nursing degree with a major in Advanced Practice Nursing and an acute care pediatric focus prepares nurses for advanced practice in the care of acutely and critically ill children and adolescents. The goal of this innovative program is to prepare advanced practice nurses who will promote the health and development of children and adolescents as individuals and as population groups encountering changing healthcare systems within urban and

global environments. Graduates of the program are prepared to provide expert clinical care to meet the specialized physiological and psychological needs of children and adolescents with complex acute, critical, and chronic health conditions and/or urgent, emergent, and life-threatening conditions. The curriculum combines both broad foundational knowledge essential for the care of children as a vulnerable population, as well as specialty knowledge in pediatrics. Special emphasis is given to the care of children with chronic complex conditions. Attention is also given to health promotion, prevention of disease and disability, disease process, treatment, clinical management, and patient- and family-centered care provided in a variety of acute and critical care settings including hospitals, intensive care units, emergency departments, and clinics. Upon program completion, students are eligible to take a certification examination through the Pediatric Nursing Certification Board (PNCB).

### *M.S.N. Pediatric Nurse Practitioner- Acute Care (Required Courses)*

#### **Master's Core Courses: 13 Credits**

NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 24 Credits**

NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 8  
NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8  
NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

#### **Supporting Courses: 4-10 Credits**

NUR 7030 -- Advanced Nursing Assessment: Cr. 4  
NUR 7207-- Pediatric Pharmacology: Cr. 3  
NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Neonatal Nurse Practitioner

*(Minimum of forty-seven credits required)*

The Master of Science in Nursing degree with a major in Advanced Practice Nursing with Neonates prepares nurses for advanced practice in the care of high risk neonates. The curriculum combines both broad foundational knowledge essential for the care of neonates as a vulnerable population, as well as specialty knowledge in high-risk neonatal care. Attention is given to health promotion, prevention of disease and disability, disease process, clinical management, and family-centered care. The goal of this innovative program is to prepare advanced practice nurses who will promote the health and development of neonates as individuals and as population groups encountering changing healthcare systems within urban and global environments. Three-thousand hours of level three neonatal intensive care unit (NICU) work experience is required for admission. Upon program completion, students are eligible to take a certification examination through the National Certification Corporation (NCC).

### *M.S.N. Neonatal Nurse Practitioner (Required Courses)*

#### **Master's Core Courses: 13 Credits**

NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 24 Credits**

NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 8  
NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8  
NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

#### **Supporting Courses: 4-10 Credits**

NUR 7030 -- Advanced Nursing Assessment: Cr. 4  
NUR 7200 -- Neonatal Pharmacology for the Advanced Practice Nurse: Cr. 3  
NUR 7203 -- Neonatal Physiology for the Advanced Practice Nurse: Cr. 3

## Psychiatric Mental Health Advanced Practice

*(Minimum of forty-seven credits for the CNS Option,  
plus three additional credits for the Nurse Practitioner  
Option)*

All students in the Psychiatric and Mental Health (PMH) concentration gain knowledge in biological, neurological, pharmacological, and physiological domains that prepare them to conduct comprehensive assessments and utilize a range of psychobiological interventions. The PMH clinical nursing course sequence focuses on: Psychiatric assessment, triage, and crisis intervention; biopsychological models of mental health and illness; theory and practice with individual interest (e.g., addictions, eating and sleep disorders, gender issues, HIV/AIDS, major psychiatric illnesses, violence) and with clinical populations of interest.

Students planning to assume psychotherapy, consultation, and liaison roles are prepared to take the American Nurses Credentialing Center (ANCC) Adult or Child & Adolescent Psychiatric Clinical Nurse Specialist (CNS) examination after completing a minimum of forty-seven credits of study. Students planning to assume mental health primary care roles elect three credits (NUR 7990) of additional coursework which prepares them to take the ANCC Adult or Family Psychiatric Nurse Practitioner (NP) examination. The State of Michigan recognizes both the ANCC Certified Psychiatric CNS and the ANCC Certified Psychiatric NP as eligible for certification as NPs in Michigan. Courses that lead to interdisciplinary certificates in addictions, conflict resolution, developmental disabilities, or infant mental health also may be elected. (A graduate certificate is also available in this specialty, see page 478.)

### *M.S.N. Advanced Practice Psychiatric-Mental Health Nursing (Required Courses)*

#### **Master's Core Courses: 13 Credits**

NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 21 Credits**

NUR 7840 -- Advanced Practice Nursing with Individual/Communities: Cr. 6  
NUR 7860 -- Advanced Practice Nursing with Families: Cr. 6  
NUR 7855 -- Advanced Practice Nursing with Groups: Cr. 6  
NUR 7990 -- Directed Study in Nursing: Cr. 3 (for NP only option)

#### **Supporting Courses: 16 Credits**

NUR 7030 -- Advanced Nursing Assessment: Cr. 4  
NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3  
NUR 7865 -- Foundations of Complementary & Alternative Medicine (CAM):  
Use in Professional Nursing Practice, Clinical Intervention I: Cr. 3  
NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3  
S W 6540 -- Effects of Drugs & Alcohol: Social & Physical Function: Cr. 3

## Public/Community Health Nursing

*(Minimum of forty-seven credits required)*

The Master of Science in Nursing degree with a specialty in Public/Community Health Nursing prepares nurses for advanced practice in the care of vulnerable populations and communities. The goal of this program is to prepare advanced practice nurses who will promote the health and well-being of populations and communities. Improving the

health of populations and communities is addressed through community assessment, program planning and implementation, leadership strategies, health policy development, and program evaluation. Community partnerships and collaborations are emphasized throughout the curriculum. Upon completion of the Master's program, two credentialing examinations are available through the American Nurses Credentialing Center (ANCC): the Advanced Public Health Nurse-Board Certified (APHN-BC) and with some additional coursework, the Clinical Nurse Specialist (CNS) in Public Health Nursing.

### *M.S.N. Advanced Community Health Nursing (Required Courses)*

#### **Master's Core Courses: 13 Credits**

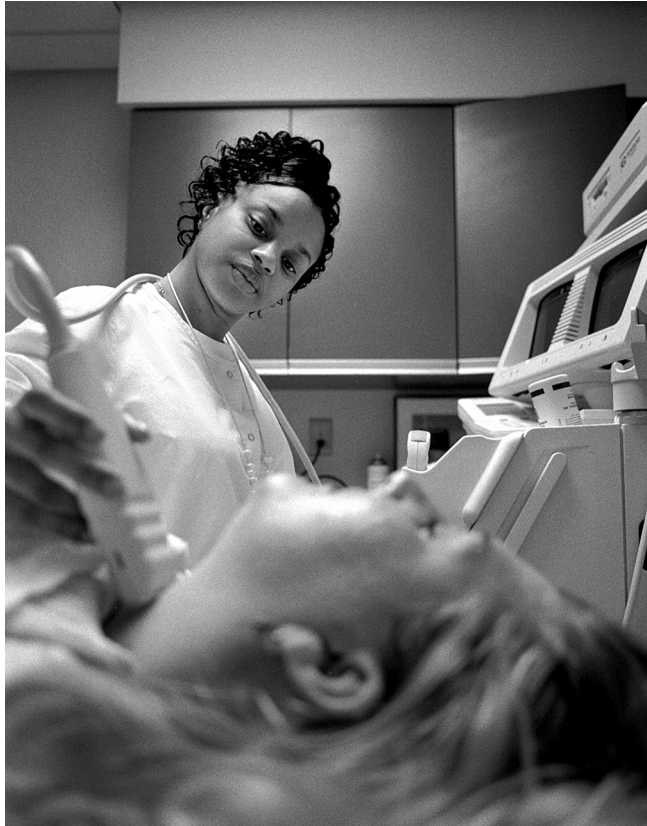
NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3  
NUR 7015 -- Research for Evidence-Based Adv. Practice I: Cr. 4  
NUR 7018 -- Research for Evidence-Based Adv. Practice II: Cr. 3  
NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3

#### **Clinical Course Sequence: 18 Credits**

NUR 7840 -- Advanced Practice Nursing with Individuals/Communities: Cr. 6  
NUR 7855 -- Advanced Practice Nursing with Groups: Cr. 6  
NUR 7860 -- Advanced Practice Nursing with Families: Cr. 6

#### **Supporting Courses: 16 Credits**

FPH 7015 -- Biostatistics I: Cr. 4  
FPH 7240 -- Epidemiology: Cr. 3  
NUR 7030 -- Advanced Nursing Assessment: Cr. 4  
NUR 7545 -- Principles and Practices of Nursing Service Management: Cr. 3  
NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3  
NUR 7865 -- Foundations of Complementary & Alternative Medicine (CAM):  
Use in Professional Nursing Practice, Clinical Intervention I: Cr. 3  
NUR 7890 -- Special Topics: Systemic Pathophysiology: Cr. 3  
S W 6540 -- Effects of Drug & Alcohol: Social & Physical Function: Cr. 3



# Graduate Certificates in Nursing

## Graduate Certificate in Nursing Education

*(Minimum of twelve credits required)*

This Graduate Certificate Program in Nursing Education is designed to prepare nurses for teaching positions in educational and service settings. The certificate provides nurses with essential knowledge and skills in teaching, program development, evaluation, clinical instruction, and other aspects of the educational process in nursing. Courses focus on concepts of learning; teaching methods and concepts of teaching in nursing; multimedia and computer-assisted instruction and distance education; development of educational programs in nursing; evaluation; testing; and clinical teaching from a theoretical and research perspective. The program provides learners with a theoretical framework for teaching in nursing and related competencies.

**Admission** to this program is contingent upon admission to the Graduate School; (for requirements, see page 18) and the availability of College of Nursing resources. Students must also meet the following criteria for admission: 1) completion of a Master's degree in Nursing or concurrent enrollment in the Master's program in the College of Nursing at Wayne State University. (If the student is currently enrolled in the M.S.N. program, the certificate will not be awarded until the M.S.N. is posted to the transcript), 2) current Michigan Registered Nurse licensure, 3) a statement of purpose for seeking the Nursing Education certificate, and 4) three letters of reference.

**CERTIFICATE REQUIREMENTS:** The Certificate must be earned within three years and no transfer credit will be accepted. A minimum grade point average of 3.0 must be achieved. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 485, respectively.

#### **Required Courses (Twelve credits)**

Graduate-level Nursing or Education course approved by advisor (may be applied toward Master's degree if WSU student): Cr. 3  
NUR 7710 -- Theoretical Perspectives of Teaching in Nursing: Cr. 3  
NUR 7720 -- Evaluation and Testing in Nursing Education: Cr. 3  
NUR 7730 -- Practice Teaching in Nursing: Cr. 3

## Graduate Certificate in Complementary Therapies in Healthcare

*(Minimum of twelve credits required)*

This graduate certificate program includes three required graduate courses that are designed to provide education and clinical experience related to complementary, alternative therapies that are often used to complement conventional health care treatments in the United States. This graduate program provides information for individuals who provide services for patients/clients, families and communities and is open to registered nurses who have a B.S.N. degree, graduate nursing students and other healthcare providers.

The certificate program courses focus on concepts of complementary and alternative medicine and whole systems of care for individuals throughout the lifespan from a health promotion and illness treatment perspective; evidenced -based therapies included in hospital-based integrative medicine centers are explored and research strategies are examined. Students will learn CAM assessment strategies as well as population trends related to use and integration in conventional health settings. Clinical practice components are included in all

program courses and the certificate provides essential knowledge and skills regarding complementary therapies in today's healthcare world.

**Admission** to this program is contingent upon admission to the Graduate School, see page 18. Additional requirements include: a graduate of an accredited baccalaureate nursing program, or other baccalaureate program with a focus on healthcare needs in society with a clinical concentration. Applicants who are graduates of other accredited baccalaureate programs will be considered on a case-by-case basis

**CERTIFICATE REQUIREMENTS:** This three course, twelve-credit certificate program must be taken in sequence over a calendar year. No transfer credit will be accepted for the courses in the certificate. A grade point average of 3.0 must be maintained. All course work must be completed in accordance with the academic regulations of the Graduate School and the College of Nursing; see sections beginning on pages 32 and 485, respectively

#### **Required Courses (12 credits)**

- NUR 7865 -- Foundations of Complementary & Alternative Medicine: Use in Professional Nursing Practice, Clinical Intervention I
- NUR 7870 -- Understanding the Evidence: Complementary Therapy Research
- NUR 7875 -- Complementary & Alternative Medicine Therapies: Clinical Intervention II

## Graduate Certificate in Transcultural Nursing

*(Minimum of twelve credits required)*

This certificate is designed to provide students with knowledge and skills for working with individuals, families and groups of various cultures, and with cultural institutions exhibiting diverse values, beliefs and lifeways. The courses are especially designed to contrast and compare different cultures throughout the world and offer students the opportunity to understand how culture influences health care. Classroom and field experiences enable students to become competent practitioners, consultants, cultural care facilitators, and teachers in transcultural nursing.

**Admission:** Applicants must meet the admission requirements of the Graduate School, see page 18. Eligibility for this program is extended to students enrolled in the M.S.N. or Ph.D. programs at Wayne State University and to graduates of an accredited M.S.N. program.

**CERTIFICATE REQUIREMENTS:** The certificate program consists of a minimum of twelve credits which must be earned within three years and no transfer credit will be accepted. A minimum grade point average of 3.0 must be achieved. All course work must be completed in accordance with the academic regulations of the Graduate School and the School of Nursing; see sections beginning on pages 32 and 485, respectively.

#### **Required Courses (Twelve Credits)**

The course requirements for the Graduate Certificate in Transcultural Nursing are being revised. Please contact the Associate Dean for Academic Affairs for further information.

## Graduate Certificate in Psychiatric Mental Health Nursing

*(Minimum of sixteen credits required)*

This Graduate Certificate Program is designed to prepare nurses to assume primary care roles as an Adult or Family Psychiatric Nurse Practitioner. The certificate provides nurses with essential knowledge and skills to assume psychotherapy, consultation, and liaison roles. Courses focus on systematic pathophysiology, pharmacotherapeu-

tics interventions, advanced health assessment, and health policy and issues for advanced practice nurses.

**Admission** to this program is contingent upon admission to the Graduate School, see page 18. Students must also meet the following criteria for admission: 1) completion of a Master's degree in Psychiatric Mental Health Nursing or the completion of a Master's Degree in another specialty area or concurrent enrollment in the Master's program in the College of Nursing at Wayne State University. (If the student is currently enrolled in the M.S.N. program, the certificate will not be awarded until the M.S.N. is posted on the transcript.); 2) current Michigan Registered Nurse licensure; 3) three letters of recommendation; and 4) a personal goal statement. Individualized programs will be determined for students with a Master's degree in Nursing in another specialty following evaluation of previous course syllabi and transcripts.

**Certificate Requirements:** The certificate must be earned within three years and no transfer of credit will be accepted. A minimum grade point average of 3.0 must be achieved. All course work must be completed in accordance with the academic regulations of the Graduate School and the School of Nursing; see sections beginning on pages 32 and 485, respectively.

#### **Required Courses (16 credits)**

- NUR 6510 -- Health Econ., Policy, and Professional Issues for APNs: Cr. 3
- NUR 7030 -- Advanced Nursing Assessment: Cr. 4
- NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3
- NUR 7990 -- Directed Study in Nursing: Cr. 3
- NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

## Graduate Certificate in Nurse-Midwifery

*(Minimum of sixteen credits required)*

This Graduate Certificate program is designed to prepare advanced practice nurses to practice as certified nurse-midwives in the primary care of women and newborns. The certificate provides nurses with essential knowledge and skills in nurse-midwifery care. The courses focus on concepts of nurse-midwifery clinical practice such as well-woman, primary, intrapartum, postpartum, newborn care and professional role transition. Upon completion, CNM students take the American Midwifery Certification Board (AMCB) examination. The graduate nurse-midwifery concentration is accredited by the Accreditation Commission for Midwifery Education (ACME) 8403 Colesville Road, Suite 1550; Silver Spring, MD, 240-485-1800.

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Students must also meet the following criteria for admission: 1) completion of a graduate (Master's or doctoral) degree in Nursing; 2) current Michigan Registered Nurse licensure; 3) three letters of reference; and 4) a personal goal statement.

**CERTIFICATE REQUIREMENTS:** The certificate must be earned within three years and no transfer of credit will be accepted. A minimum grade point average of 3.0 must be achieved. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 485, respectively. Please contact Department for requirements.

#### **Required Courses (16 credits)**

(Nurse-Midwifery section for the following two courses)

- NUR 7226 -- APNWC: Pathophysiology, Clinical Care and Mgt. II: Cr. 8
- NUR 7227 -- APNWC: Pathophysiology, Clinical Care and Mgt. III: Cr. 8

## Graduate Certificate in Pediatric Acute Care Nursing

This Graduate Certificate Program will allow primary care-certified pediatric nurse practitioners to acquire the nationally-specified pediatric acute and critical care content and clinical skills needed to take the national pediatric acute care certification exam and then to function competently within the acute care scope of practice. It will require satisfactory completion of eighteen credits of didactic content and clinical practice. The certificate provides nurses with essential knowledge and skills to assume acute care roles in a myriad of settings using a patient and family-centered care model. Courses focus on integrating advanced health assessment, pathophysiology, and acute clinical care and management. Specific clinical experiences in two of the courses will be tailored to meet needs of individual graduate certificate students. Students will be expected to acquire approximately 500 hours of acute care experience as required to meet the specialty competencies and the requirements to take the Pediatric Nurse Practitioner-Acute Care national certification examination. (In the following curricula APNWNC stands for Advanced Practice Nursing with Women, Neonates and Children.)

### **Course Requirements: (18 Credits)**

NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 2  
NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8  
NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

## Graduate Certificate in Pediatric Primary Care Nursing

This Graduate Certificate Program provides nurses with essential knowledge and skills in pediatric primary care with a particular focus on care of children with complex chronic conditions. It will require satisfactory completion of eighteen credits of didactic content and clinical practice. The certificate provides nurses with essential knowledge and skills to assume primary care roles in a myriad of settings using a patient and family-centered care model. Courses focus on integrating advanced health assessment, pathophysiology, primary care clinical care and management. Specific clinical experiences in two of the courses will be tailored to meet needs of individual graduate certificate students. Students will be expected to acquire approximately 500 hours of primary care experience as required to meet the specialty competencies and the requirements to take the Pediatric Nurse Practitioner-Primary Care national certification examination. (In the following curricula APNWNC stands for Advanced Practice Nursing with Women, Neonates and Children.)

### **Course Requirements: (18 Credits)**

NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 2  
NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8  
NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8

## Graduate Certificate in Women's Health Nursing

The Women's Health Nurse Practitioner graduate certificate program is designed to prepare nurse practitioners or certified nurse-midwives to additionally practice as women's health nurse practitioners in the primary care of women throughout their life span. This certificate program provides nurses with essential knowledge and skills in women's health care. Courses focus on integrating advanced health assessment, pathophysiology, pharmacotherapeutics, women's health primary care clinical care and management as well as concepts of complicated obstetric and gynecologic care and acute and chronic care. Specific clinical experiences in these courses are tailored to meet the needs of individual graduate certificate students. Students

will be expected to acquire approximately 600 hours of women's health care clinical experience as required to meet the specialty competencies and the requirements to take the Women's Health Nurse Practitioner national certification examination. (In the following curricula APNWNC stands for Advanced Practice Nursing with Women, Neonates and Children.)

### **Course Requirements: (18 Credits)**

NUR 7225 -- APNWNC: Pathophysiology, Clinical Care and Management I: Cr. 2  
NUR 7226 -- APNWNC: Pathophysiology, Clinical Care and Management II: Cr. 8  
NUR 7227 -- APNWNC: Pathophysiology, Clinical Care and Management III: Cr. 8



# Doctoral Programs in Nursing

## DOCTOR OF PHILOSOPHY IN NURSING

### Admission Requirements

Informational meetings are held monthly and prospective students are encouraged to attend prior to application. The schedule is posted on the College's web site under Prospective Student, Information Meetings.

- 1. Admission** to this program is contingent upon admission to the Wayne State University Graduate School (for requirements, see page 18). In addition, applicants must comply with the following:
- 2. Application:** All new applicants must submit two application forms: 1) the University or International Application for Doctoral Admission and 2) the College of Nursing Application for Admission to the Doctor of Philosophy Program in Nursing. Applications are available online through <http://www.gradschool.wayne.edu/phdadmission/phdapp.pdf> and at the College Doctoral Programs website. Admission decisions are based upon all materials submitted and reflect careful consideration of the applicant's professional goals, research interests, and the resources of the College of Nursing. Although an applicant may meet all minimum requirements, admission may not be granted because of 1) unavailable program space, and/or 2) inadequate College resources relevant to the applicant's specific interests. Admission decisions will be made after all required materials have been received.
- 3. Nursing Degree:** Applicants must have earned a bachelor's or master's degree in nursing or the equivalent from a National League for Nursing (NLN) or Commission on Collegiate Nursing Education (CCNE) accredited institution. International applicants must have earned an equivalent degree.
- 4. Grade Point Average:** It is recommended that applicants who have a master's degree have a 3.3 (on a 4.0 scale) graduate g.p.a., based on at least twelve credits of graduate level course work; and applicants who have a bachelor's degree have a minimum 3.5 g.p.a. in upper division undergraduate course work (the last sixty credits).
- 5. Graduate Record Examination (GRE):** Submit official GRE scores taken within the last five years.
- 6. References:** Submit three references (College of Nursing forms are available) from nurse faculty, nurse researchers, and/or other professional colleagues (preferably at the doctoral-prepared level) who can evaluate the applicant's scholarship and aptitude for research.
- 7. Statement of Professional Goals:** Write a brief statement (College of Nursing forms are available) that describes motivation for doctoral study, career goals, potential focus of research and how that research interest may fit with one or more of the research orientations of the faculty in the College of Nursing. To determine a potential fit of research interests with faculty research programs, applicants are encouraged to view faculty interests in the Faculty Research Activity Interest Guide and contact individual faculty members.
- 8. Licensure:** Submit a copy of current RN license. Applicants applying for Path II of the Ph.D. in Nursing program must obtain current Michigan Registered Nurse Licensure prior to entry into the clinical sequence. All applicants educated outside the U.S. must be certified or evaluated by the Commission on Graduates of Foreign Nursing Schools (CGFNS). Contact CGFNS, 3600 Market St., Philadelphia PA 19104-2651 or <http://www.cgfns.org> to request a certification application, or call: 215-349-8767. Verification of a student's CGFNS certification must be forwarded to the State of Michigan Board of

Nursing by the CGFNS in order to take the RN licensure examination, NCLEX.

**9. Interviews:** Applicant interviews are required and will be scheduled after receipt of the College of Nursing application, goals statement and curriculum vita.

**Priority Admission Deadline:** The final application deadline is January 15.

**Readmission:** Students who are inactive and desire readmission must submit a written request to the Director of the Doctoral Program of the College of Nursing, four months prior to the semester in which they wish to register. The readmission decision is based on recommendation of the Doctoral Program Committee and the Graduate School.

### Degree Requirements

Candidates for the Doctor of Philosophy in Nursing must complete a minimum of ninety graduate credits beyond the baccalaureate degree including a thirty-credit dissertation. The thirty-credit dissertation registration requirement is fulfilled by registering in the courses NUR 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 485, respectively.

**7000-Level Courses:** The Ph.D. program must include thirty credits, excluding dissertation direction, in courses numbered 7000 or above.

**Plan of Work:** Early in his/her program the doctoral student, with the assistance of his/her academic advisor plans a sequence of studies, the Interim Plan of Work. The Final Plan of Work, approved by the academic advisor and the Graduate Officer, College of Nursing, should be filed before the student has completed forty graduate credits (including transfer credits). Petition for Transfer of Credits and annual reviews should be attached to the Plan of Work. It is the responsibility of the student to file any changes in the Plan of Work.

**Residency:** The Ph.D. requirement of one year of residence is met by completion of six graduate credits in course work (not dissertation) over two successive semesters (Spring/Summer Semester may be excluded).

**Qualifying Examinations** must be applied for following completion of approximately forty to fifty credits on the student's approved Plan of Work and both research requirements (NUR 7998, Master's Research Project of three credits, and 120/200 clock hours of doctoral research experience) must be completed to be eligible to take the written and oral exams.

**Candidacy:** The final Qualifying examination must be passed and the Dissertation Committee approved to establish candidacy.

**Time Limitations:** Students in all paths have a seven year time limit to complete all requirements for the Ph.D. degree. The seven-year period begins with the end of the semester during which the student was admitted to doctoral study and was taking work toward meeting the requirements for the degree. Students whose seven-year time limit has expired may be considered for an extension, provided that the Qualifying Examinations have been successfully completed. Subsequent extensions will not be considered in the absence of substantial progress during the previous year.

### Ph.D. Curricular Options

The faculty of the College of Nursing has developed three curricular paths for students to accomplish the requirements for the Ph.D. in nursing. These paths offer options to applicants based on their present educational level and professional career goal: two paths for students entering the program post-B.S.N., and one for those entering



post-M.S.N. Full-time and part-time study options are available, fall, winter, spring and summer.

The following curricula courses marked with an asterisk (\*) have prerequisites that are listed under the Graduate Courses section and at <http://www.classschedule.wayne.edu>. Students are advised to keep themselves informed of these requirements so that scheduling their courses will be consistent with prerequisite sequencing.

***PATH I: For Post-M.S.N. Students, Leading to the Ph.D.***

FOCUS: Research and Nursing Knowledge

*Nursing Transfer Courses Advisor Approved (6 credits)*

***THEORY (9 credits)***

- NUR 8010\* -- Theoretical Perspectives in Nursing Science: Cr. 3
- NUR 8020\* -- Theory Formulation and Testing in Nursing: Cr. 3
- NUR 8890 -- Special Topics in Nursing: Cr. 3

***DOMAIN OF KNOWLEDGE: (21 credits)***

Seminars (11 Credits): four courses required:

- NUR 8210 -- Health Determinants: Focus on Urban Environments: Cr. 3
- NUR 8220\* -- Self Care: Focus on Urban Environments: Cr. 3
- NUR 8230\* -- Caregiving: Focus on Urban Environments: Cr. 3
- NUR 8990 -- Directed Study: Cr. 2 (or elective relevant to research focus)

Professional Seminars (4 credits):

- NUR 8140 -- Professional Socialization: Cr. 2
- NUR 8150 -- Career Development: Cr. 2

Cognates: Courses other than Nursing courses to support domain of knowledge (6 credits)

***RESEARCH AND STATISTICS COURSES (24 credits)***

- NUR 7998\* -- Master's Research Project<sup>1</sup>: Cr. 3
- NUR 8040 -- Research Methods: Quantitative: Cr. 3
- NUR 8050\* -- Advanced Research Methods: Quantitative: Cr. 3
- NUR 8060 -- Research Methods: Qualitative: Cr. 3
- NUR 8095 -- Progressions Seminar: Cr. 1
- Prereq: NUR 8010, 8040, 8140, 8210, 8220, 8230, and 8890.
- NUR 8610 -- Appld. Statistical Anlys: Health. Care Rsch. I: Cr. 4
- NUR 8612 -- Appld. Statistical Anlys: Health. Care Rsch. II: Cr. 4
- Research Methods Elect. (from Nursing or another discipline): Cr. 3
- Doctoral Research Experience (120 clock-hours, advisor approved): Cr. 0

***DISSERTATION RESEARCH AND DIRECTION (30 credits)***

- NUR 9991-9994 -- Doctoral Candidate Status I, II, III, IV:  
Dissertation Research and Direction: Cr. 7.5 (each)

Path One Total Minimum Credits: 90.

***PATH II: For Post-B.S.N. Students, Leading To The M.S.N. and Ph.D. (Michigan RN License Required)***

FOCUS: Research, Nursing Knowledge, and Clinical Specialization

***CLINICAL SPECIALIZATION (37-47 credits)***

- Total credits depend upon Master of Science in Nursing clinical major, chosen from the following:
- Adult Acute Care Nursing -- Critical Care Nursing Option
- Adult Primary Care Nursing -- Gerontological Nurse Practitioner Option
- Advanced Practice Nursing with Women, Neonates and Children
- Women's Health Nurse Practitioner
- Certified Nurse-Midwife
- Neonatal Nurse Practitioner
- Neonatal Nurse Practitioner - Primary Care
- Neonatal Nurse Practitioner - Acute Care
- Community Health Nursing
- Psychiatric Mental Health Advanced Practice
- Psychiatric Mental Health Nurse Practitioner Option

***THEORY (9 credits)***

- NUR 8010\* -- Theoretical Perspectives in Nursing Science: Cr. 3
- NUR 8020\* -- Theory Formulation and Testing in Nursing: Cr. 3
- NUR 8890 -- Special Topics in Nursing: Cr. 3

***DOMAIN OF KNOWLEDGE: (21 credits)***

Seminars (11 Credits): four courses required:

- NUR 8210 -- Health Determinants: Urban Environments: Cr. 3
- NUR 8220\* -- Self Care: Urban Environments: Cr. 3
- NUR 8230\* -- Caregiving: Urban Environments: Cr. 3
- NUR 8990 -- Directed Study: Cr. 2 (or elective relevant to research focus)

Professional Seminars (4 credits):

- NUR 8140 -- Professional Socialization: Cr. 2
- NUR 8150 -- Career Development: Cr. 2

Cognates: Courses other than Nursing to support domain of knowledge (6 credits)

***RESEARCH AND STATISTICS COURSES (33 credits)***

- NUR 7000 -- Statistics in Nursing: Cr. 3
- NUR 7015 -- Research Evidenced-Based Adv. Nur. Practice I: Cr. 4
- NUR 7018 -- Research Evidenced-Based Adv. Nur. Practice II: Cr. 3
- NUR 7998\* -- Master's Research Project:<sup>1</sup> Cr. 3
- NUR 8040 -- Research Methods: Quantitative: Cr. 3
- NUR 8050 -- Advanced Research Methods: Quantitative: Cr. 3
- NUR 8060 -- Research Methods: Qualitative: Cr. 3
- NUR 8095 -- Progressions Seminar: Cr. 1
- Prereq: NUR 8010, 8040, 8140, 8210, 8220, 8230, and 8890.
- NUR 8610 -- Appld. Statistical Anlys: Hlth. Care Rsch. I: Cr. 4
- NUR 8612 -- Appld. Statistical Anlys: Hlth. Care Rsch. II: Cr. 4
- Advanced Research Methods Elective (from Nursing or another discipline): Cr. 3
- Ph.D. Research Experience (120 clock-hours, advisor approved.): Cr. 0

***DISSERTATION RESEARCH AND DIRECTION (30 credits)***

- NUR 9991-9994 -- Doctoral Candidate Status I, II, III, IV:  
Dissertation Research and Direction: Cr. 7.5 (each)

Path Two Total Minimum Credits: 130-140

The total Ph.D. program must include thirty credits, excluding dissertation direction, in courses open only to graduate students (7000 level or above).

1. Credit may be transferred. If student has not completed a three-credit research-based master's project, including data collection and analysis, three credits in NUR 7998 are required.

### ***PATH III: For Post-B.S.N. Students, Leading to the Ph.D.***

FOCUS: Research and Nursing Knowledge

#### ***THEORY (12 credits)***

NUR 7105 -- Theoretical Foundations for Advanced Practice: Cr. 3  
NUR 8010\* -- Theoretical Perspectives in Nursing Science: Cr. 3  
NUR 8020\* -- Theory Formulation and Testing in Nursing: Cr. 3  
NUR 8890 -- Special Topics in Nursing: Cr. 3

#### ***DOMAIN OF KNOWLEDGE: (21 credits)***

Seminars (11 Credits): four courses required:

NUR 8210 -- Health Determinants: Focus on Urban Environments: Cr. 3  
NUR 8220\* -- Self Care: Focus on Urban Environments: Cr. 3  
NUR 8230\* -- Caregiving: Focus on Urban Environments: Cr. 3  
NUR 8990 -- Directed Study: Cr. 2 (or elective relevant to research focus)

Professional Seminars (4 credits):

NUR 8140 -- Professional Socialization: Cr. 2  
NUR 8150 -- Career Development: Cr. 2

Cognates (Courses other than Nursing to support domain of knowledge): Cr. 6

#### ***RESEARCH AND STATISTICS (34 credits)***

NUR 7000 -- Statistics in Nursing: Cr. 3  
NUR 7015 -- Research Evidenced-Based Adv. Nur. Practice I: Cr. 4  
NUR 7018 -- Research Evidenced-Based Adv. Nur. Practice II: Cr. 3  
NUR 8040 -- Research Methods: Quantitative: Cr. 3  
NUR 8050 -- Advanced Research Methods: Quantitative: Cr. 3  
NUR 8060 -- Research Methods: Qualitative: Cr. 3  
NUR 8095 -- Progressions Seminar: Cr. 1.  
Prereq: NUR 8010, 8040, 8140, 8210, 8220, 8230, and 8890.  
NUR 8610 -- Apld. Statistical Anlys: Hlth. Care Rsch. I: Cr. 4  
NUR 8612 -- Apld. Statistical Anlys: Hlth. Care Rsch. II: Cr. 4  
Advanced Research Methods Elective  
(from Nursing or another discipline): Cr. 3  
NUR 9998 -- Doctoral Research Project: Cr. 3  
Doctoral Research Experience  
(200 clock-hours, advisor approved): Cr. 0

#### ***DISSERTATION RESEARCH AND DIRECTION (30 credits)***

NUR 9991-9994 -- Doctoral Candidate Status I, II, III, IV:  
Dissertation Research and Direction: Cr. 7.5 (each)

Path Three: Total Minimum Credits: 96

The total Ph.D. program must include thirty credits, excluding dissertation direction, in courses open only to graduate students (7000 level or above).

### **Infant Mental Health (Ph.D. Dual Title Program)**

Students in the Ph.D. or D.N.P. programs in Nursing can apply to earn a Ph.D. in Nursing or a D.N.P. with a dual-title in Infant Mental Health (IMH). This dual title degree is designed to prepare nurses to support early social and emotional development in a variety of contexts in which parents or children suffer from developmental disabilities, health problems, or mental health problems. The program also prepares nurses to conduct research related to infant mental health. Students take courses in infant development and assessment, and develop specific skills related to infant mental health assessment and treatment. The dual title coursework follows competencies outlined by the Michigan Association for Infant Mental Health that are required for endorsement as an infant mental health specialist or an infant mental health mentor.

**Admission** to this program is contingent upon admission to the Wayne State University Graduate School (for requirements, see page

18). Students should indicate on their application to the Nursing program their desire to earn an Infant Mental Health Dual Title. Students may also contact the IMH program director, Ann Stacks, any time prior to the completion of their qualifying/preliminary examination to enroll in the program.

**Degree Requirements.** In addition to Ph.D. requirements as cited above, students are required to complete twelve to fourteen credits of infant mental health coursework including the following courses with at least a 3.0 g.p.a.:

ELE 7025: Infant Mental Health Theory to Practice: Cr. 2  
NUR 7XXX: Infant/Family Mental Health Assessment: Cr. 2)  
S W 7010: Infant Mental Health Practice: Cr. 1-2  
PSY 7425: Psychology of Infant Behavior and Development: Cr. 3  
PSY 7430: Developmental Assessment of Infants and Toddlers: Cr. 3

Ph.D. students must also complete a qualifying examination and a Doctoral Dissertation related to infant mental health.

### **Postdoctoral Study**

The purpose of postdoctoral study is to develop scientists capable of sustaining independent research within the theoretical perspective of nursing science. Opportunities are available for postdoctoral study on an individual basis in relation to the specific interest of the applicant, and to the availability of expert faculty mentorship. Interested students should contact the Director of the Doctoral and Postdoctoral Programs, College of Nursing, (313) 577-4144.

### **DOCTOR OF NURSING PRACTICE**

Doctor of Nursing Practice (D.N.P.) program was established in 2008 for registered nurses seeking advanced education for leadership in clinical positions, health policy development, evaluation and application of patient care research, and systemic efforts in health promotion and risk reduction. Through this program, students are trained to use clinical research to improve and transform health care. The college's first D.N.P. degrees were awarded in May 2011.

### **Admission Requirements**

**Admission** to this program is contingent upon admission to the Wayne State University Graduate School (for requirements, see page 18). In addition, applicants must comply with the following:

Applicants must have earned a bachelor's or master's degree in nursing or the equivalent from a National League for Nursing (NLN) or Commission on Collegiate Nursing Education (CCNE) accredited institution. They must have a minimal grade point average of 3.0 in the most recent nursing program and no less than a 'B' in all pre-requisite courses. International students must meet University and College English language requirements and satisfy all WSU and State Board of Nursing requirements for nurses practicing in Michigan. Two letters of recommendation, a professional goals statement, a resume and a criminal background check are also required. All qualified applicants will be interviewed.

**Post-Masters Applicants** are required to have completed courses in the following content areas prior to admission: Advanced Physical Assessment, Pharmacology, Pathophysiology, and Introductory Statistics.

**Nurse Practitioner Applicants** who are certified in a practitioner specialty are exempt from the Advanced Physical Assessment, Pharmacology and Pathophysiology requirements cited above. All course work must have been completed within ten years of the time of admission to the D.N.P. program.

An official Graduate Record Examination (GRE) score report (General Test), taken within the last five years, is recommended for applicants who have earned a minimum of a bachelor's degree in nursing. Applicants may choose instead the GRE Exemption (to be admitted without the GRE score report), but they must submit an example of their writing for evaluation. This scholarly writing sample can be a

published article or unpublished scholarly course paper; it should describe a problem or issue relevant to nursing, conceptualized and discussed in a logical and coherent manner, which displays evidence of creative thinking and the ability to synthesize ideas and draw conclusions from relevant literature. Further, if accepted into the D.N.P. program, these applicants will be admitted to a probationary period of twelve credits. During this probationary period students must maintain a minimum grade point average of 3.0 on a 4.0 scale overall. Those probationary students who do not maintain a 'B' or better grades will be dismissed from the program.

Applicants who have earned a master's degree in nursing must provide a sample of scholarly writing, in English, instead of the GRE score report. The scholarly writing sample can be a master's thesis/project, a published article, or an unpublished scholarly paper. The writing sample should describe a problem or issue relevant to nursing, conceptualized and discussed in a logical and coherent manner, which displays evidence of creative thinking and the ability to synthesize ideas and draw conclusions from relevant literature.

**Registered Nurse Licensure:** Applicants must obtain current Michigan Registered Nurse Licensure prior to entry into the clinical sequence. All applicants educated outside the U.S. must be certified by the Commission on Graduates of Foreign Nursing Schools (CGFNS). Contact CGFNS, 3600 Market St., Philadelphia PA 19104-2651 or <http://www.cgfns.org> to request a certification application, or call: 215-349-8767. Verification of a student's CGFNS certification must be forwarded to the State of Michigan Board of Nursing by the CGFNS in order to take the RN licensure examination, NCLEX. Post-masters nursing students must be certified by a nationally recognized body in their area of specialization.

**Application:** The final deadline is October 15. Informational meetings will be held monthly and applicants are encouraged to attend before completing the application. The schedule is listed on the College doctoral Program web site at <http://www.nursing.wayne.edu>.

**Admission decisions** are based upon all materials submitted and reflect careful consideration of the applicant's professional goals, clinical research interests, interview and the resources of the College of Nursing. Although an applicant meets all minimum requirements, admission may not be granted because of 1) unavailable program space and/or 2) inadequate College resources relevant to the applicant's specific interest.

## Degree Requirements

All course work must be completed in accordance with the academic procedures of the College and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 32 and 485, respectively.

The D.N.P. program must include a minimum of thirty credits of graduate coursework completed in residence at Wayne State University. Neither courses numbered in the 9000s nor classes elected as "visitor" may be used to fulfill this requirement. Early in the program the student, in consultation with the academic advisor, plans a sequence of courses. This Plan of Work is approved by the academic advisor and the Graduate Officer, College of Nursing. It is the responsibility of the student to file any changes in the Plan of Work. Preliminary Examination must be applied for following completion of the coursework requirements. Students will be expected to take preliminary examinations to demonstrate their knowledge of each primary field and all supporting fields. Students must pass these examinations.

Students in all paths have a seven year time limit to complete all requirements for the D.N.P. degree. The seven-year period begins with the end of the semester during which the student was admitted to doctoral study and was taking work toward meeting the requirements for degree. Students whose seven-year time limit has expired may be considered for an extension, provided that the Preliminary Examinations have been successfully completed. Subsequent exten-

sions will not be considered in the absence of substantial progress during the previous year.

## D.N.P. Curricular Options

The faculty of the College of Nursing has developed three curricular paths for students to complete the requirements for the Doctorate of Nursing Practice. These options are oriented to the applicant's educational level at the time of admission and professional career goal. One path is for students entering the program post-B.S.N., and two paths for those entering post-M.S.N. Full-time and part-time study options are available in the fall semester.

**Clinical Practicum:** Requirement of one year of residence equaling six graduate credits in course work, not including dissertation, over two successive semesters. (Spring/Summer semester may be excluded.)

The total DNP program must include thirty credits, excluding Clinical Inquiry Project, in courses open only to graduate students (7000 level or above).

### *Path I entry level: Post-B.S.N. Leading to the D.N.P. and Clinical Certification (Total Credits: 78-87)*

**FOCUS:** Clinical specialty certification, Clinical Inquiry, leadership development, and translation of research into practice (Michigan RN license required)

#### *Requirements for Path I*

Nursing Transfer Courses Advisor approved - 5 credits.

#### *THEORY (6 credits)*

NUR 8620 -- Foundations of Nursing as a Discipline: Cr. 3

NUR 8625 -- Evidence Based Nur. Pract.: Theoretical and Meth. Issues: Cr. 3

#### *DOMAIN OF KNOWLEDGE: (12 Credits)*

NUR 8210 -- Health Determinants: Focus on Urban environment: Cr. 3

NUR 8615 -- Informatics Innovations in Nursing: Cr. 3

NUR 8650 -- Advanced Professional Leadership: Cr. 3

NUR 8630 -- Conceptual Meth. in Health Policy Leadership and Ethics: Cr. 3

#### *COGNATE COURSES: (6 credits supporting domain of knowledge)*

NUR 7710 -- Theoretical Perspectives of Teaching In Nursing: Cr. 3

NUR 7720 -- Evaluation and Testing in Nursing Education: Cr. 3

NUR 8635 -- Clinical Practice Outcomes: Cr. 3

NUR 8640 -- Health Information Technology: Cr. 3

NUR 8645 -- Entrepreneurship/Business Practice Management in APN: Cr. 3

#### *RESEARCH AND STATISTICS: (23 Credits)*

FPH 7240 -- Epidemiology: Cr. 3

NUR 8610 -- Applied Statistical Analysis for Health Care Research I: Cr. 4

NUR 9500 -- Clinical Inquiry Practicum I: Cr. 3-5

NUR 9510 -- Clinical Inquiry Practicum II: Cr. 3-5

NUR 9520 -- Clinical Inquiry Project: Cr. 3

#### *ADDITIONAL REQUIRED COURSES FOR PATH ONE:*

##### *RESEARCH AND STATISTICS (3 Credits)*

NUR 7000 or PSY 5100

-- Statistics in Nursing: Cr. 3

-- Applied Statistics in Psychology: Cr. 4

##### *ADVANCED PRACTICE NURSING (Minimum credits 30-35; total credits dependent on major)*

NUR 7030 Advanced Nursing Assessment (for all but Community): Cr. 5

Plus one of the following:

NUR 7203 -- Adv. Neonatal Physiology & Pathophysiology: Cr. 3

NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

Plus one of the following:

- NUR 7200 -- Neonatal Pharmacology: APN: Cr. 3
- NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3
- PPR 6860 -- Principles of Pediatric Pharmacy: Cr. 3

Minimum of 3 APN Specialty Clinical Courses:

- NUR 8670 -- APN Specialty I: Foundations: Cr. 3-4
- NUR 8680 -- APN Specialty II: Intermediate: Cr. 3
- NUR 8690 -- APN Specialty III: Advanced: Cr. 2-3

Minimum of 3 Clinical LAB Courses:

- NUR 8675 -- APN Specialty Clinical I: Foundations: Cr. 4-5
- NUR 8685 -- APN Specialty Clinical II: Intermediate: Cr. 5
- NUR 8695 -- APN Specialty Clinical III: Advanced: Cr. 5-6

### ***Path II entry level: Post-master's with Clinical Specialty Leading to the D.N.P. (Total Credits: 40-44)***

FOCUS: Clinical Specialty certification, Clinical Inquiry, leadership development, and translation of research into practice (Michigan RN license eligibility and Specialty Certification required)

#### ***Requirements for Path II***

Nursing Transfer Courses Advisor approved - 5 credits.

#### ***THEORY (6 credits)***

- NUR 8620 -- Foundations of Nursing as a Discipline: Cr. 3
- NUR 8625 -- Evidence Based Nur. Pract.: Theoretical and Meth. Issues: Cr. 3

#### **DOMAIN OF KNOWLEDGE: (12 Credits)**

- NUR 8210 -- Health Determinants: Focus on Urban Environments: Cr. 3
- NUR 8615 -- Informatics Innovations in Nursing: Cr. 3
- NUR 8650 -- Advanced Professional Leadership: Cr. 3
- NUR 8630 -- Conceptual Meth. in Health Policy Leadership and Ethics: Cr. 3

#### ***COGNATE COURSES: (6 credits supporting domain of knowledge)***

- NUR 7710 -- Theoretical Perspectives of Teaching in Nursing: Cr. 3
- NUR 7720 -- Evaluation and Testing in Nursing Education: Cr. 3
- NUR 8635 -- Clinical Practice Outcomes: Cr. 3
- NUR 8640 -- Health Information Technology: Cr. 3
- NUR 8645 -- Entrepreneurship/Business Practice Management in APN: Cr. 3

#### ***RESEARCH AND STATISTICS: (20 Credits)***

- FPH 7240 -- Epidemiology: Cr. 3
- NUR 8610 -- Applied Statistical Analysis for Health Care Research I: Cr. 4
- NUR 9500 -- Clinical Inquiry Practicum I: Cr. 3-5
- NUR 9510 -- Clinical Inquiry Practicum II: Cr. 3-5
- NUR 9520 -- Clinical Inquiry Project: Cr. 3

#### ***ADVANCED PRACTICE NURSING***

None required for this option since already certified.

### ***Path III entry level: Post-master's without Clinical Specialty Leading to D.N.P. and Clinical Certification. (Total Credits: 64-73)***

FOCUS: Clinical specialty certification, Clinical Inquiry, leadership development, and translation of research into practice (Michigan RN license required)

#### ***Requirements for Path III***

Nursing Transfer Courses Advisor approved - 5 credits.

#### ***THEORY (6 credits)***

- NUR 8620 -- Foundations of Nursing as a Discipline: Cr. 3
- NUR 8625 -- Evidence Based Nur. Pract.: Theoretical and Meth. Issues: Cr. 3

#### **DOMAIN OF KNOWLEDGE: (12 Credits)**

- NUR 8210 -- Health Determinants: Focus on Urban environment: Cr. 3
- NUR 8615 -- Informatics Innovations in Nursing: Cr. 3
- NUR 8650 -- Advanced Professional Leadership: Cr. 3
- NUR 8630 -- Conceptual Meth. in Health Policy Leadership and Ethics: Cr. 3

#### ***COGNATE COURSES: (6 credits supporting domain of knowledge)***

- NUR 7710 -- Theoretical Perspectives of Teaching In Nursing: Cr. 3
- NUR 7720 -- Evaluation and Testing in Nursing Education: Cr. 3
- NUR 8635 -- Clinical Practice Outcomes: Cr. 3
- NUR 8640 -- Health Information Technology: Cr. 3
- NUR 8645 -- Entrepreneurship/Business Practice Management in APN: Cr. 3

**ADVANCED PRACTICE NURSING:** (minimum 30-35 credits; total credits dependent upon major.

- NUR 7030 -- Advanced Nursing Assessment (for all but Community): Cr. 5

Plus one of the following:

- NUR 7203 -- Adv. Neonatal Physiology & Pathophysiology: Cr. 3
- NUR 7890 -- Special Topics: Adv. Pathophysiology Across the Life Span: Cr. 3

Plus one of the following:

- NUR 7200 -- Neonatal Pharmacology: APN: Cr. 3
- NUR 7555 -- Pharmacotherapeutics for Advanced Practice: Cr. 3
- PPR 6860 -- Principles of Pediatric Pharmacy: Cr. 3

Minimum of 3 APN Specialty Clinical Courses:

- NUR 8670 -- APN Specialty I: Foundations: Cr. 3-4
- NUR 8680 -- APN Specialty II: Intermediate: Cr. 3
- NUR 8690 -- APN Specialty III: Advanced: Cr. 2-3

Minimum of 3 Clinical LAB Courses:

- NUR 8675 -- APN Specialty Clinical I: Foundations: Cr. 4-5
- NUR 8685 -- APN Specialty Clinical II: Intermediate: Cr. 5
- NUR 8695 -- APN Specialty Clinical III: Advanced: Cr. 5-6

## **Infant Mental Health (D.N.P. Dual Title Program)**

Students in the Ph.D. or D.N.P. programs in Nursing can apply to earn a Ph.D. in Nursing or a D.N.P. with a dual-title in Infant Mental Health (IMH). This dual title degree is designed to prepare nurses to support early social and emotional development in a variety of contexts in which parents or children suffer from developmental disabilities, health problems, or mental health problems. The program also prepares nurses to conduct research related to infant mental health. Students take courses in infant development and assessment, and develop specific skills related to infant mental health assessment and treatment. The dual title coursework follows competencies outlined by the Michigan Association for Infant Mental Health that are required for endorsement as an infant mental health specialist or an infant mental health mentor.

**Admission** to this program is contingent upon admission to the Wayne State University Graduate School (for requirements, see page 18). Students should indicate on their application to the Nursing program their desire to earn an Infant Mental Health Dual Title. Students may also contact the IMH program director, Ann Stacks, any time prior to the completion of their qualifying/preliminary examination to enroll in the program.

**Degree Requirements.** In addition to Ph.D. requirements as cited above, students are required to complete twelve to fourteen credits of infant mental health coursework including the following courses with at least a 3.0 g.p.a.:

- ELE 7025: Infant Mental Health Theory to Practice: Cr. 2
- NUR 7XXX: Infant/Family Mental Health Assessment: Cr. 2)
- S W 7010: Infant Mental Health Practice: Cr. 1-2

PSY 7425: Psychology of Infant Behavior and Development: Cr. 3  
PSY 7430: Developmental Assessment of Infants and Toddlers: Cr. 3

Ph.D. students must also complete a qualifying examination and a Doctoral Dissertation related to infant mental health.



# Academic Regulations

For complete information regarding academic rules and regulations of the University, students should consult the General Information section of this bulletin, beginning on page 5. The following additions and amendments pertain to the College of Nursing.

## Registration

Each student is required at the beginning of each semester of attendance to register according to the procedure and schedule published in the official University *Schedule of Classes*. Registration must be completed before the student may attend classes. For registration dates, the student should consult the *Schedule of Classes*. A minimum of eight credits in graduate courses constitutes a full-time load for graduate students. Some courses require approval of the academic advisor and the College Graduate Officer.

## Professional Licensure and Liability Insurance

Graduate students must be registered to practice nursing in Michigan and have professional liability and malpractice insurance before registering for courses involving clinical practice. The minimum amount of liability insurance is \$1,000,000,000/\$5,000,000,000. Each student is to present his/her professional liability and malpractice insurance policy to the Office of Student Affairs no later than August 15th of each year of clinical course work.

## Health Requirements for Clinical Courses

A completed College of Nursing Health Clearance Form must be on file in the Office of Student Affairs no later than August 15th prior to the first clinical course. All students must have an admission physical examination and history and must comply with requirements for a Basic Cardiac Life Support - Level C (BCLS-Level C) course, mumps, Tuberculin Skin (TB) test or chest x-ray, proof of Rubella, Rubeola, and Chicken Pox immunity, and the complete series of inoculations against Hepatitis B virus, TDAP, Urine Drug Screen Testing and a criminal background investigation. Some majors require Advanced Cardiac Life Support Certification (ACLS).

Some majors require Advanced Cardiac Life Support Certification (ACLS). Students who have met all of the Health Clearance Requirements will be issued a Clinical Permit. Students who do not have a Clinical Permit issued by the College of Nursing Office of Student Affairs will not be allowed into the clinical setting. Clinical Permits will be issued once each semester prior to the start of the semester. Students who ask for a second copy of the Clinical Permit (regardless of the reason) will be charged a \$5.00 processing fee.

## Master's Degree Scholarship Standards

The graduate grading system is intended to reflect high standards of scholarship. The policies for academic progression for graduate students are listed below.

1. A student must earn an overall grade point average of 3.0 or better to be awarded the M.S.N. degree.
2. A student must earn a grade point average of 3.0 or better for advancement from master's applicant status to master's candidate status.
3. A student achieving less than a 3.0 g.p.a. at any point in the program must achieve a g.p.a. of 3.0 or better within the next nine credits. If there is evidence that the goal of a 3.0 g.p.a. is not achievable, the student will be excluded from the program.
4. A student may petition to repeat a graduate course once in which a grade lower than 3.0 is received. No more than two courses may be repeated.

5. A student will be excluded from the program if more than six credits of course work below a 2.67 g.p.a. have been earned, whether or not the courses are repeated and better grades are subsequently received.
6. A student will be excluded if a g.p.a. below 2.67 is earned in two nursing courses, whether or not the courses are repeated and better grades are subsequently earned.
7. A student will be excluded from the program if a failing grade below 2.0 is earned in a nursing course.
8. A student may be excluded from the College of Nursing for unsafe and/or unethical conduct in the program without having been previously warned.
9. Students have a six-year time limit to complete all requirements for the master's degree. The six-year period begins with the end of the semester during which the student has taken work which applies toward meeting the requirements of the degree.

## Doctoral Degree Scholarship and Academic Progression Policies

See the section on Graduate Grades, page 29.

1. A minimum overall grade point average of at least 3.0 is required for a student to be awarded a Ph.D. degree.
2. Students must maintain at least a 3.0 g.p.a. to progress.
3. Students with a g.p.a. below 3.0 are placed on probation systematically and automatically have a hold placed on their registration. Such students are required to confer with their advisor to develop a plan and timetable for elevating their g.p.a. If the advisor approves the plan, s/he should notify the school/college to release the g.p.a. registration hold so the student can register for the agreed upon course(s).
4. A student may petition to repeat a graduate course once in which a grade lower than 3.0 has been earned. No more than two courses may be repeated.
5. Students must be enrolled each academic year while in the doctoral program.
  - a. Doctoral students who fail to enroll in either Fall or Winter semester of a given academic year will be considered not in good standing.
  - b. Doctoral students who fail to enroll in two (2) consecutive semesters (i.e. Winter/Fall) will be subject to exclusion from the program.

## Organizations

**The College of Nursing Council** is composed of elected representatives of students and faculty. Its purpose is to reflect the interests of the student members to the University and the larger community.

**The Doctoral Student Forum** is an organization of nursing students in the Ph.D. program, officially recognized by the University. The goals and objectives are to provide students with opportunities within the group to air concerns, beliefs, and practices related to their educational experiences. Meetings are held monthly. Students serve on College of Nursing committees; such as the Faculty Search Committee, DNP Program Committee, Ph.D. Program Committee and the Center for Health Research Advisory Committee. Special events, such as Homecoming, receptions for new students, and other social events are sponsored by this group. All doctoral nursing students are members by virtue of admission to the Doctoral program. Members who wish to receive minutes and to be put on the Forum's mailing list are asked to pay yearly dues of \$20.00. The dues are used to cover expenses and further the goals of the Doctoral Student Forum.

**Sigma Theta Tau**, International Honor Society of Nursing, installed Lambda Chapter at Wayne State University in 1953. Its purposes include recognition of superior scholastic achievement and leader-

ship potential. Candidates for membership are elected annually from baccalaureate and graduate programs.

**Chi Eta Phi Sorority, Inc.**, is a national professional nurses' and nursing student organization with the twofold purpose of elevating the plane of nursing and increasing interest in the field of nursing.

**The Alumni Association of the College of Nursing** is composed of graduates, faculty and former students of the College. This group is part of the general University Alumni Association, but has its own organization. Its purpose is to keep members in close touch with College activities and with professional developments, and to work for the welfare of the College of Nursing.

## 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 of 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 an 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.

**Student Rights and Responsibilities for the University:**  
see page 34.



# Financial Assistance

The University Office of Financial Aid, Welcome Center, 42 W. Warren Ave. (see page 26), administers scholarships, grants, loans and emergency funds available to all University students, and funds provided especially for College of Nursing students. Early application is encouraged.

The College of Nursing offers both scholarship and loan funds. Application materials and deadline dates can be obtained from the Office of Student Affairs, College of Nursing, 10 Cohn. The deadline for application for College of Nursing scholarships is July 1. Some of the scholarships available are:

**College of Nursing Alumni Endowed Scholarship:** Any full-time student who is enrolled in a College of Nursing degree program and demonstrated outstanding scholastic achievement, qualities of leadership, and financial need is eligible for this award.

**College of Nursing Alumni Graduate Scholarship:** Any graduate student who is an alumnus of Wayne State University and is enrolled in a College of Nursing degree program is eligible for this award.

**College of Nursing Alumni Doctoral Scholarship:** Any Wayne State University alumnus who is enrolled in the College of Nursing Ph.D. program is eligible for this award.

**Nurse Scholars Society Scholarship:** Any graduate (M.S.N. or Ph.D.) student who intends to enroll full-time in the College of Nursing for at least one year and demonstrates outstanding scholastic achievement (at least 3.8 g.p.a.) and financial need is eligible for this award.

**Marcia D. Bain Memorial Scholarship:** Any graduate student (M.S.N. or Ph.D.) who has a defined interest in psychiatric nursing and demonstrated outstanding scholastic achievement (at least 3.5 g.p.a.) is eligible for this award.

**Mary E. Cottle Endowed Scholarship Fund:** Any graduate student interested in maternal child health is eligible for this award.

**Bertine Fair Endowed Scholarship in Community Health Nursing:** Any graduate student enrolled in community health nursing is eligible for this award.

**Paulette Hoyer Graduate Scholarship:** Any graduate student enrolled in a degree program in the College of Nursing interested in women's health is eligible for this award.

**Dorothy E. Reilly Memorial Endowed Scholarship:** Any graduate student enrolled in a master's or doctoral program in the College of Nursing is eligible for this award.

**College of Nursing Alumni Community Service Award:** Any student enrolled in a College of Nursing degree program who demonstrates evidence of community involvement and active contributions to the urban community, and scholastic achievement of 3.0 g.p.a. or above, is eligible for this award.

**WSHF Student Financial Assistance Award:** Any student enrolled in a College of Nursing degree program who demonstrates scholastic achievement, leadership qualities, and financial need is eligible for this award.

**Gloria Ann Colquhoun Memorial Scholarship:** Any full-time master's student enrolled in the College of Nursing who demonstrates financial need, outstanding scholastic achievement, and leadership abilities is eligible for this award.

**Helen Newberry Joy Scholarship:** Any student enrolled in a degree program in the College of Nursing who is in good academic standing and demonstrates financial need is eligible for this award.

**Steiger Memorial Scholarship:** Any full-time or part-time nursing student in a degree program in the College of Nursing who demonstrates financial need is eligible for this award.

## Advanced Practice Nursing Traineeship

Federal funds *may* be available for students in the M.S.N. program who enroll full-time for two consecutive terms. In addition to tuition, the award may include a stipend and book costs. Applications are available in the Office of Student Affairs, College of Nursing.

## Graduate Assistantships, Grants, and Other Awards

See the section on the University Office of Financial Aid, beginning on page 26.

## Other Sources of Financial Support

Graduate fellowships, teaching assistantships, and research assistantships may be available. The National Research Service Awards Program has special nurse fellowships for pre- or post-doctoral students. Qualified students are urged to apply. Contact the Director of the Doctoral and Postdoctoral Programs, College of Nursing, 313-577-4138.

## Thomas C. Rumble University Graduate Fellowship

The prestigious Thomas C. Rumble Fellowships are awarded annually for the full academic year (Fall and Winter Terms). Full-time graduate students pursuing a Ph.D. degree are eligible to apply. The award includes: a stipend, tuition of up to twelve graduate credits per term; subsidized medical insurance coverage for twelve months; and a housing allowance for the same twelve-month period. Additional information and applications are available from the Office of Student Affairs, College of Nursing. Application deadline is mid-February.

## Graduate-Professional Scholarships

Each year the Graduate School sponsors a competition for Graduate-Professional Scholarships for full academic year tuition awards (Fall and Winter terms). Scholarships are available to qualified applicants pursuing master's or Ph.D. degrees or graduate certificates. Awards are based on merit and are available to both full-time and part-time students, and funds up to twelve graduate credits per term. Most awards provide tuition at Michigan resident rates only; a small number are awarded for the full non-resident rate. Additional information and application forms are available from the Scholarships and Fellowships Office of the Graduate School. Application deadline is March 1.

## Employment Opportunities for Students

Part-time employment opportunities are available both on and off campus for students. Information about these and other opportunities may be obtained from the University Placement Services, 1001 Faculty/Administration Building.

# Administration and Faculty

*Dean:* Barbara Redman

*Associate Dean, Academic and Clinical Affairs:* Jean Davis

*Associate Dean, Research and Director of the Center for Health Research:* Nancy Artinian

*Interim Assistant Dean, Adult Health:* Janet Harden

*Assistant Dean, Family, Community, and Mental Health:*  
Linda Lewandowski

*Director of Doctoral and Post Doctoral Studies:*  
Jean Davis

*Assistant Dean, Office of Student Affairs:*  
Cynthia Redwine

*Administrative Manager:* Kimberly Rize

*Academic Staff:* Felicia Grace, Robert Hellar, Dennis Ross

## *Professors*

Nancy Artinian, Judith Floyd, Helene Krouse, Barbara Pieper, Barbara Redman, Virginia Rice, Thomas Templin (research), Hossein Yarandi

## *Associate Professors*

Ramona Benkert, Jean Davis, Linda Lewandowski, Rosalind Peters, Stephanie Schim, April Vallerand, Deborah Walker, Feleta Wilson

## *Assistant Professors*

Joan Bickes (clinical), Lorraine Buis, Lisa Chiaodo, Jesus Casida, Ann Collins (clinical), Rhonda Conner-Warren, M. Kay Cresci, Margaret Falahee (clinical), Diane Featherston (clinical), Judith Fouladbakhsh, Nancy George (clinical), Wanda Gipson-Scipio, Janet Harden (clinical), Carolyn Herrington, Patricia Jarosz, Kay Klymko (clinical), Judith McComish, Mary Anne McCoy (clinical), Leanne Nantais-Smith (clinical), Cheryl Nordstrom (research), Janna Roop (clinical), Patricia Thornburg (clinical), Horng-Shi-uann Wu

## *Clinical Instructors*

JoAnne Ashare, Katherine Balint, Hedi Bednarz, Suzanne Billingsley, Darlene Blair, Susan Bushinski, Ruth Chaplen, Wanda Edwards, Kathryn Keves-Foster, Kathleen Kowalewski, Margie Miller, Barbara Moore, Teofanes Natarvio, Karen Olsen, Kimberly Shmina, LaVonne Shpakoff, Susan Szczesny, Joan Visger, Mary White, Katherine Zimmnicki, Mary Zugcic

## *Senior Lecturer*

Barbara Williams

# Graduate Courses (NUR)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

## **6010 Writing for Nursing Publication. Cr. 3**

Graduate students prepare to write for nursing and health-care publications; process from beginning the manuscript through publication. (Y)

## **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. (W)

## **7000 Statistics in Nursing. Cr. 3**

Prereq: NUR 3400 or equiv. 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). (S)

## **7010 Research in Nursing. Cr. 3**

Prereq: NUR 3400 or equiv. Research course to develop understanding of methods used to generate scientific knowledge and to incorporate it into advanced-practice nursing. (F)

## **7015 Research for Evidence-Based Advanced Nursing Practice I. Cr. 4**

Prereq: admission to an MSN program. Study of methods used to generate and critique scientific knowledge. (F,W)

## **7018 Research for Evidence-Based Advanced Nursing Practice II. Cr. 3**

Prereq: NUR 7015. Continuation of NUR 7015; critique, evaluation, and synthesis skills used in advanced nursing practice. (W,S)

## **7030 Advanced Nursing Assessment. Cr. 4-5**

Prereq: PTH 7500, NUR 7555; NUR 2010 or equiv. for women's health nurse practitioner/nurse/midwife, neonatal nurse practitioner, and pediatric nurse practitioner programs. NUR 7030 must be passed with grade of B or above to progress in MSN Program. 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. (S)

## **7100 Theoretical Foundations of Nursing Practice. Cr. 3**

Prereq: admission to graduate major in nursing. Analysis of conceptual nursing systems, with focus on issues related to theoretical evolution of nursing and development of conceptual models for nursing practice. Open to all nursing majors. (F)

## **7105 Theoretical Foundations for Advanced Practice. Cr. 3**

Prereq: admission to an MSN program. Theory course: foundations for nurses in advanced practice and leadership roles. Discussion of diverse perspectives that influence knowledge development in nursing. (T)

## **7110 Responses and Experiences in Health and Illness. Cr. 3**

Prereq: NUR 7100. Examination of models, theories and research which explain individual responses and experiences in health and illness. Integration of selected health/illness models/theories into nursing framework to direct practice. (F,W)



**7130 APN: Management of Oncology, Mental Health, and Lifestyle Change. Cr. 6**

Prereq: NUR 7030 with grade of B or above; NUR 7555 and PTH 7500. NUR 7130 must be passed with grade of B or above to progress in MSN Program. Development of clinical expertise required to co-manage the care of persons with illness trajectories related to oncology, hematology, mental health and wound management. (W)

**7140 APN: Management of Cardiopulmonary and Renal Problems. Cr. 6-10**

Prereq: NUR 7030 with grade of B or above; NUR 7555, PTH 7500. NUR 7140 must be passed with grade of B or above to progress in MSN Program. Development of clinical nursing expertise required to co-manage the care of persons with illness trajectories related to pulmonary, cardiovascular and renal systems. (W)

**7155 Primary Prevention Strategies in Primary Care. Cr. 7**

Prereq: NUR 7030 with grade of B or above; PTH 7500, and NUR 7555. NUR 7155 must be passed with grade of B or above to progress in MSN Program. Systematic history-taking and physical examination techniques used in collection of pertinent clinical data. (F)

**7165 Clinical Decision Making in Primary Care. Cr. 7**

Prereq: NUR 7155 with grade of B or above; PTH 7500; NUR 7555. NUR 7165 must be passed with grade of B or above to progress in MSN Program. Critical thinking and analysis of managerial decisions in primary care of adults and older adults. (W)

**7175 Primary Care Management and Evaluation. Cr. 7**

Prereq: NUR 7165 with grade of B or above; PTH 7500, NUR 7555. NUR 7175 must be passed with grade of B or above to progress in MSN Program. Synthesis of community-based primary care nursing within the framework of evaluation. (F,W)

**7200 Neonatal Pharmacology for the Advanced Practice Nurse. Cr. 3**

Prereq: admission to APN/WNC program. Basic concepts of pharmacology; application and integration of content to advanced practice nursing with high-risk neonate. (S)

**7203 Advanced Neonatal Physiology and Pathophysiology. Cr. 3**

Open only to MSN neonatal nurse practitioner students. Prereq: admission to APN/WNC MSN program. Basic concepts of developmental physiology; application and integration of content into advanced practice nursing with the high-risk neonate. (F,S)

**7205 Pediatric Physiology and Development. Cr. 3**

Concepts of pediatric physiology and child development for advanced practice nurses; assessing and managing the pediatric patient in a variety of environments. (F)

**7207 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. (W)

**7225 APNWNC: Pathophysiology, Clinical Care and Management I. Cr. 2-8**

Prereq: NUR 2010, NUR 3400; NUR 7030 with grade of B or above; for WHNP/NMW: NUR 7555, PTH 7500; for PNP: NUR 7205, NUR 7207; for NNP: NUR 7200, NUR 7203. NUR 7225 must be passed with grade of B or above to progress in MSN Program. Managing health care needs of women, neonates, and/or children; conceptual basis for advanced nursing. (F)

**7226 APNWNC: Pathophysiology, Clinical Care and Management II. Cr. 8**

Prereq: NUR 7225. NUR 7226 must be passed with grade of B or above to progress in MSN Program. Development and demonstration of a model of advanced practice nursing or nurse-midwifery. (W)

**7227 APNWNC: Pathophysiology, Clinical Care and Management III. Cr. 8**

Prereq: NUR 7226. NUR 7227 must be passed with grade of B or above to progress in MSN Program. Synthesis of advanced practice nursing or nurse-midwifery model for care of women, neonates, and/or children. (S)

**7370 APN: Management of Neurological, Endocrine, and Musculo-Skeletal Problems. Cr. 6**

Prereq: NUR 7030 with grade of B or above; NUR 7555, PTH 7500. NUR 7370 must be passed with grade of B or above to progress in MSN Program. Assisting advanced practice nurses in development of clinical expertise required to co-manage persons with problems related to neurology, endocrinology, and musculoskeletal disorders. (W)

**7415 Physical and Psychosocial Issues in Aging. Cr. 3**

Prereq: admission to GNP program or IOG specialist certificate in aging program. Analysis of predominant physical and psychosocial aspects of aging encountered by elderly clients. (W)

**7500 Advanced Community Health Nursing Practice with Urban Populations. Cr. 5**

Prereq: master's standing. First in series of three clinical courses. Introduction to theoretical and empirical foundations for advanced community health nursing practice. (F)

**7515 End-of-Life Issues. (ANT 5430) (ANT 7430) (LIS 7635) (SOC 5020) (SOC 7020) 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. (T)

**7525 Program Planning in Advanced Community Health Nursing Practice. Cr. 5**

Prereq: NUR 7500. Second in series of three clinical courses. Program planning; introduction to program evaluation models. (W)

**7535 Program Implementation and Evaluation in Advanced Community Health Nursing Practice. Cr. 5**

Prereq: NUR 7500, NUR 7525. Third in series of three courses. Continuation of NUR 7525. (S)

**7545 Principles and Practices of Nursing Service Management. Cr. 3**

Prereq: admission to MSN program in community health nursing. Preparation for management roles in mid-level nursing leadership positions. (W)

**7555 Pharmacotherapeutics for Advanced Practice. Cr. 3**

Open only to students admitted to MSN Program; others by consent of instructor. Prereq: NUR 2060 or undergraduate pharmacy course; PTH 7500 or equiv. General pharmacotherapy; critical evaluation of drug therapy; critique and prescription of appropriate therapeutic regimens. (W)

**7560 Contemporary Policy and Leadership in Community Health Nursing. Cr. 5**

Prereq: NUR 7540. Synthesis of concepts, theory and research related to leadership and policy to effect change in a community. (S)

**7575 Health Systems Management in Urban Environments. Cr. 5**

Prereq: master's standing. Preparation of advanced practice nurses for health systems management. (W)

**7620 Group and Environmental Interventions in Advanced Psychiatric Mental Health Nursing. Cr. 6**

Prereq: NUR 7500, NUR 7555. Advanced theoretical knowledge and clinical expertise relative to group and environmental approaches for individuals and families with mental health needs. Weekly clinical

practice components; development of expertise in group and milieu treatment strategies. (W)

**7630 Family Interventions in Advanced Psychiatric Mental Health Nursing. Cr. 6**

Prereq: NUR 7500, NUR 7555. Theoretical knowledge and clinical expertise relative to a variety of treatment approaches with individuals and families who have mental health needs. Weekly clinical practice in a mental health setting where students develop expertise in implementing and evaluating various treatment strategies with individuals and families managing cases and participating on interdisciplinary teams. (F)

**7635 Individual Interventions in Advanced Psychiatric Mental Health Nursing. Cr. 6**

Prereq: master's standing. Advanced theoretical knowledge and clinical expertise in a variety of treatment approaches with the individual client (young, middle-aged, and older adult). (F)

**7640 Systems of Care in Psychiatric Nursing. Cr. 4**

Trends and directions in psychiatric mental health nursing; political and financial factors and effect on caregiving systems; development of competencies in addressing unmet needs in community mental health and in correcting deficiencies within a mental health system. (F)

**7650 Advanced Psychiatric Nursing Assessment and Crisis Intervention. Cr. 5**

Prereq: NUR 2010, PSY 5050, PSY 5070; prereq. or coreq: NUR 7100. Comprehensive biopsychosocial assessments; intervention in psychiatric crisis; disposition plans for clients across the life span. Weekly clinical component; development of expertise in assessment, diagnosis, and crisis intervention in mental health care. (W)

**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. (Y)

**7720 Evaluation and Testing in Nursing Education. Cr. 3**

Development of educational program in nursing. Test construction, clinical and performance evaluation, and grading. (B:W)

**7730 Practice Teaching in Nursing. Cr. 3**

Application experience in educational setting appropriate to student's needs and goals. (Y)

**7745 Immigration and Health. (ANT 7745) Cr. 3**

Interdisciplinary distance-learning course that focuses on worldwide migration across international borders, and its health-related effects on individuals, families and nations. (Y)

**7840 Advanced Practice Nursing with Individuals/Communities. Cr. 6**

Prereq: NUR 7030 with grade of B or above; NUR 7555, PTH 7500. NUR 7840 must be passed with grade of B or above to progress in MSN Program. Opportunities for psychiatric nursing and community health nursing advanced practice students to integrate content about individuals and communities within cultural contexts. (F)

**7855 Advanced Practice Nursing with Groups. Cr. 6**

Prereq: NUR 7030 with grade of B or above; NUR 7555, PTH 7500. NUR 7855 must be passed with grade of B or above to progress in MSN Program. Opportunities for psychiatric nursing and community health nursing advanced practice students to integrate content about groups within cultural contexts. (W)

**7860 Advanced Practice Nursing with Families. Cr. 6**

Prereq: NUR 7030 with grade of B or above; NUR 7555, PTH 7500. NUR 7860 must be passed with grade of B or above to progress in MSN Program. Opportunities for advanced practice psychiatric nursing

and advanced practice community health nursing students to integrate content about families within cultural contexts. (S)

**7865 Foundations of Complementary and Alternative Medicine (CAM): Use in Professional Nursing Practice, Clinical Intervention I. Cr. 3**

Prereq: admission to graduate program. Philosophical, historical, physiological basis of CAM; use in advanced practice nursing. (F)

**7890 Special Topics in Nursing. Cr. 1-8**

Prereq: written consent of graduate officer. Exploration and analysis of topics significant to the development of nursing science and professional practice. (F,W)

**7990 Directed Study in Nursing. Cr. 1-8**

Prereq: written consent of advisor and graduate officer; consent of instructor. Individually designed courses of study in nursing. (T)

**7998 Master's Research Project. Cr. 1-3**

Prereq: NUR 7010, consent of advisor and instructor, written consent of graduate officer. Scientific investigation of nursing phenomena using all steps of the research process; includes written report. (T)

**8010 Theoretical Perspectives in Nursing Science. Cr. 3**

Prereq: PHI 5230 or equiv. Critical examination of factors contributing to development of nursing as a scientific discipline; impact of philosophical, epistemological, and historical factors. (S)

**8020 Theory Formulation and Testing in Nursing. Cr. 3**

Prereq: NUR 8010, PSY 7160, NUR 8050. Synthesis and application of knowledge from theoretical, methodological, and area of concentration nursing to a phenomenon of interest. (S)

**8040 Research Methods: Quantitative. Cr. 3**

Prereq: graduate standing. Fundamental principles of a quantitative approach to nursing research. Threats to validity, sampling theory, concepts of measurement, measurement strategies, data collection strategies. Required research methods course. (W)

**8050 Advanced Research Methods: Quantitative. Cr. 3**

Open only to doctoral students in Ph.D. nursing program. Prereq: PSY 7150, PSY 7160. Experimental, quasi-experimental, correlational and descriptive designs in nursing research. Threats to validity, sampling theory, concepts of measurement, measurement strategies, and data collection. (S)

**8060 Research Methods: Qualitative. Cr. 3**

Qualitative nursing research methods including ethnography, grounded theory, phenomenology. Sampling, data collection, data analysis, and interpretation. (S)

**8070 Qualitative Data Collection and Analysis. (ANT 7070) Cr. 3**

Prereq: NUR 8060 or equiv. For students who have already developed a research proposal and are in the process of conducting a qualitative study. Practical application of data collection, analysis and interpretation. (W)

**8095 Progressions Seminar. Cr. 1**

Open only to nursing students. Prereq: NUR 8010, 8040, 8140, 8210, 8220, 8230 and 8890. Offered for S and U grades only. Guidance in integration and synthesis of the foundational doctoral courses. (F)

**8140 Professional Socialization. Cr. 2**

Offered for S and U grades only. Forum for mentoring doctoral students and socializing them to life as a doctoral student, researcher, and scholar. (Y)

**8150 Career Development. Cr. 2**

Offered for S and U grades only. For doctoral students midway through coursework; forum for discussion relevant to preparation of research grants and career options following graduation. (Y)

**8160 Mental Health Aspects of Violence and Trauma. Cr. 3**

Prereq: graduate status. Theories of violence and terrorism, and the mental health aspects of these phenomena. (Y)

**8210 Health Determinants: Focus on Urban Environments. Cr. 3**

Prereq: Ph.D. standing. Examination of individual/family/community/environment relationships as determinants of health and health disparities. Physical, social and global factors that affect health and health disparities. (F)

**8220 Self Care: Focus on Urban Environments. Cr. 3**

Prereq: NUR 8210. Examination of the phenomenon of self care within the context of an urban environment. (W)

**8230 Caregiving: Focus on Urban Environments. Cr. 3**

Prereq: NUR 8220. Examination of the phenomenon of caregiving within the context of an urban environment. (S)

**8401 Stress and Coping. Cr. 3**

Selected constructs, theories, and models of stress, coping and health; conceptualization of phenomena within a nursing perspective via synthesis or derivation. (T)

**8402 Theoretical and Empirical Issues in Gerontological Nursing. Cr. 3**

Theoretical perspectives used in gerontological nursing research; selected theories of aging. (T)

**8403 Patient Outcomes: Conceptual, Methodological, and Professional/Political Issues. Cr. 3**

Patient outcomes research, including interrelatedness of the various issues. (T)

**8406 Women's Health: Relevant Issues and Concepts. Cr. 3**

Focus on women's self-care in health promotion and disease prevention. (Y)

**8503 Health Promotion Research: Theoretical and Methodological Issues. Cr. 3**

Theoretical and methodological issues in conducting health promotion research. Conceptual, design, measurement, intervention, and interpretation issues, in context of self-care related to health promotion. (T)

**8505 Family Caregiving in Acute and Chronic Illness Across the Lifespan. Cr. 3**

Critical examination of theories and research; synthesis of nursing theoretical perspective of family caregiving. (T)

**8509 Seminar in Self-Care and Caregiving. Cr. 3**

Prereq: NUR 8010. Theoretical perspectives across various populations of individuals, groups and communities. (Y)

**8606 Research Utilization in Nursing. Cr. 3**

Critical examination of theories and research on the change process as it relates to using research to guide professional behavior. (T)

**8607 Meta-analysis. Cr. 3**

Standard and emerging quantitative approaches to integrative literature review. Sampling, design, measurement, and analysis issues. (I)

**8608 Critical Analysis of Nursing Research. Cr. 3**

Focused educational experience to assist advanced doctoral students in development of abilities to critically analyze nursing research. (T)

**8609 Scientific Integrity: Responsible Scholarly Conduct. Cr. 3**

Ethical issues and moral dilemmas likely to be encountered in research careers; principles, normative standards, and skills necessary to address them. (T)

**8610 Applied Statistical Analysis for Health Care Research I. Cr. 4**

Open only to nursing doctoral students. Prereq: PSY 5100, NUR 7000, or equiv. Application of selected statistical analysis models and procedures to nursing and health research. (F)

**8612 Applied Statistical Analysis for Health Care Research II. Cr. 4**

Open only to nursing doctoral students. Prereq: NUR 8610, PSY 5100, NUR 7000. Analysis and application of advanced multivariate statistical procedures. (W)

**8615 Informatics Innovations in Nursing. Cr. 3**

Prereq: admission to DNP program or consent of instructor. Development of understanding of concepts in health care informatics relevant to the advanced practice nurse. (F)

**8620 Foundations of Nursing as a Discipline. Cr. 3**

Prereq: admission to graduate program or consent of instructor. Critical examination of factors that have contributed to the development of the discipline of nursing. (F)

**8625 Evidence Based Nursing Practice: Theoretical and Methodological Issues. Cr. 3**

Prereq: admission to graduate program or consent of instructor. Scientific foundation for integration of evidence based knowledge into clinical practice. (W)

**8630 Conceptual Methodologies in Health Policy Leadership and Ethics. Cr. 3**

Prereq: RN student, admission to graduate program or consent of instructor. Basic understanding of health policy and ethical theories and practice, skills in policy development and analysis, joined with ethical analysis. (F)

**8635 Clinical Practice Outcomes Evaluation and Benchmarking Methodologies. Cr. 3**

Prereq: RN student, admission to graduate program or consent of instructor. Foundational knowledge and skills necessary to measure clinical outcomes and quality in advanced clinical nursing practice. (F)

**8640 Health Information Technology. Cr. 3**

Prereq: admission to nursing graduate program or consent of instructor; NUR 8615. Current and future advances in health information technologies as they apply to hospital or community health systems. (F)

**8645 Entrepreneurship and Business Practice Management in Advance Practice Nursing. Cr. 3**

Prereq: NUR 8615; NUR 8635. Strategies for development, management, and evaluation of an advanced practice nursing clinical practice. (W)

**8650 Advanced Professional Leadership. Cr. 3**

Prereq: graduate standing or consent of instructor. Preparation of advanced nurses and others to effectively transition into the role of leader and change agent. (W)

**8670 APN Specialty I: Foundations. Cr. 3-4**

Prereq: NUR 7030, NUR 7555; PTH 6860 or NUR 7200; PTH 7500 (or NUR 7205 and NUR 7203); coreq: NUR 8675. 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. (F)

**8675 APN Specialty Clinical I: Foundations. Cr. 4-5**

Prereq: NUR 7030, NUR 7555; PTH 6860 or NUR 7200; PTH 7500 (or NUR 7205 and NUR 7203); coreq: NUR 8670. Clinical (lab) com-

ponent 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. Lab component includes 180-225 hours of clinical practice. (F)

**8680 APN Specialty II: Intermediate. Cr. 3**

Prereq: NUR 8675; coreq: NUR 8685. 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. (W)

**8685 APN Specialty Clinical II: Intermediate. Cr. 5**

Prereq: NUR 8670; coreq: NUR 8680. 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. Lab component includes 225 hours of clinical practice. (W)

**8690 APN Specialty III: Advanced. Cr. 2-3**

Prereq: NUR 8680 and NUR 8685; coreq: NUR 8695. 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. (W)

**8695 APN Specialty Clinical III: Advanced. Cr. 5-6**

Prereq: NUR 8685; coreq: NUR 8690. Clinical (lab) component centers on expanding knowledge essential for specialty practice, and expanding competence in autonomous practice with women, neonates, and/or children. Lab component includes 225-270 hours of clinical practice. (W)

**8890 Special Topics in Nursing. Cr. 1-8**

Prereq: doctoral student or consent of instructor. Exploration and analysis of topics significant to the development of nursing science and professional practice at the doctoral level. (Y)

**8990 Directed Study. Cr. 1-8**

Prereq: written consent of instructor and Graduate Officer; consent of advisor. Open only to doctoral students. Individually designed courses in nursing for doctoral students whose needs and interests are not met in scheduled classes. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8**

Prereq: NUR 7010, consent of instructor, written consent of graduate officer. (T)

**9500 Clinical Inquiry Practicum I. Cr. 3-5**

Prereq: completion of all course work; completion of DNP preliminary exams. Clinical doctoral nursing students demonstrate abilities to analyze, synthesize, and apply clinical inquiry knowledge and competencies. (F,W)

**9510 Clinical Inquiry Practicum II. Cr. 3-5**

Prereq: completion of course work; completion of preliminary exams; NUR 9500. Course builds on the knowledge and skills developed in NUR 9500. (W,S)

**9520 Clinical Inquiry Project. Cr. 3**

Prereq: NUR 9500; completion of preliminary exams. Clinical doctoral nursing students are provided with the opportunity to demonstrate their ability to analyze, synthesize, and apply clinical inquiry knowledge and competencies. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: NUR 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following NUR 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: NUR 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following NUR 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: NUR 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following NUR 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in NUR 9991- NUR 9994. Offered for S and U grades only.

**9998 Doctoral Research Project. Cr. 1-4**

Prereq: consent of advisor and instructor; written consent of Graduate Officer. Open only to doctoral students. Pre-dissertation research involving scientific investigation of nursing phenomenon. Written reports. (T)

Eugene Applebaum College of Pharmacy  
and Health Sciences

DEAN: Lloyd Y. Young

# Foreword

The Eugene Applebaum College of Pharmacy and Health Sciences (EACPHS) is a unit of the University formed by the collaboration of health science professions represented by the academic departments of: Fundamental and Applied Sciences, comprised of Clinical Laboratory Science, Mortuary Science, and Occupational and Environmental Health Sciences; Health Care Sciences, comprised of Occupational Therapy, Nurse Anesthesia, Physical Therapy, Physician Assistant Studies, Radiation Therapy Technology, Radiologic Technology, Radiologist Assistant Studies, Pharmacy Practice and Pharmaceutical Sciences. The College offers twenty-two degrees and certificates. The academic programs of the College maintain autonomous admission requirements, curricula, degree requirements and academic procedures.

## History

The College of Pharmacy was founded in 1924. In 1974, the pharmacy unit merged with the Division of Health to form a College dedicated to educating the health care professionals in these fields. In 1985, the College of Pharmacy and Allied Health Professions became home to the Mortuary Science department, which had originated as a unit of the School of Business Administration in 1943.

In 1998 the State of Michigan set aside \$48.2 million for a new facility, based on the University's commitment to raise \$16.1 million from private sources. Eugene Applebaum, a 1960 alumnus of the College's pharmacy program and founder of Arbor Drug Stores, made a lead gift of \$5 million and agreed to chair the College's capital campaign. The new building, which opened in 2002 on the Detroit Medical center campus, features 270,000 square feet of learning and research space. The facility brings all departments of the College under one roof, except Mortuary Science and Clinical Laboratory Science, which have separate facilities.

## Mission

The mission of this college 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. It is the intent of this college to serve as a preeminent model of learning, scholarship, and engagement, impacting health, safety, and well-being worldwide through leadership, innovation, and the interconnectedness of its disciplines. To this end the College offers a variety of graduate-professional and graduate programs. They are 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 beginning on page 511.

## Accreditation

The North Central Association accredits Wayne State University and professional programs in this College are accredited by their respective agencies:

### CLINICAL LABORATORY SCIENCE:

*National Accrediting Agency for Clinical Laboratory Science (NAACLS)*, 5600 N. River Rd., Suite 720 Rosemont, IL 60018-5119 (<http://www.naacls.org/>)

### MORTUARY SCIENCE:

*Funeral Director Program: American Board of Funeral Service Education (ABFSE)*, Dr. Gretchen L. Warner, Executive Director, 3414 Ashland Avenue, Suite G, St. Joseph, MO 64506 (<http://www.abfse.org/>)

Pathologist's Assistant Program: National Accrediting Agency for Clinical Laboratory Science (NAACLS), 5600 N. River Rd., Suite 720, Rosemont, IL 60018-5119 (<http://www.naacls.org/>)

### NURSE ANESTHESIA:

*Council on Accreditation of Nurse Anesthesia Education Programs (COA)*, 222 S. Prospect Ave., Suite 304, Park Ridge IL 60068-4010 (<http://www.aana.com/>)

### OCCUPATIONAL AND ENVIRONMENTAL HEALTH SCIENCES SPECIALIZATION IN INDUSTRIAL HYGIENE:

*Related Accreditation Commission of the Accreditation Board of Engineering and Technology (ABET)*, 11 Market Place, Suite 1050, Baltimore MD 21202 (<http://www.abet.org/>)

### OCCUPATIONAL THERAPY:

*Accreditation Council for Occupational Therapy Education (ACOTE)*, 4720 Montgomery Lane, P.O. Box 31220, Bethesda MD 20824-1220 (<http://www.aota.org/>)

### PHARMACY:

*The Accreditation Council for Pharmacy Education (ACPE)*, originally founded as the American Council on Pharmaceutical Education: 20 North Clark Street, Suite 2500, Chicago, IL 60602-5109; Phone: (312) 664-3575; FAX: (312) 664-4652 or (312) 664-7008; website: <http://www.acpe-accredit.org>

### PHYSICAL THERAPY:

*Commission on Accreditation in Physical Therapy Education (CAPTE) ATPA*, Attn: Accreditation Dept., 1111 N. Fairfax St., Alexandria VA 22314-1488 (<http://www.capteonline.org/About/>)

### PHYSICIAN ASSISTANT PROGRAM:

*Accreditation Review Committee on Education for the Physician Assistant (ARC-PA)*, 12000 Findley Road, Suite 150, Johns Creek, GA, 30097, Phone: 770-476-1224, Fax: 770-476-1738 (<http://www.arc-pa.org/>)

### RADIATION THERAPY TECHNOLOGY:

*Joint Review Committee on Education in Radiologic Technology (JRCERT)*, 20 N. Wacker Drive, Suite 2850, Chicago IL 60606-3182; telephone: 312-704-5300; Fax: 312-704-5304; website: <http://www.jrcert.org/>

## Location

The Eugene Applebaum College of Pharmacy and Health Sciences is a state-of-the-art teaching and research facility at the southwest gateway to the Detroit Medical Center, located at 259 Mack Avenue at John R Street, near the School of Medicine and Shiffman Medical Library. This new facility provides notable clinical and research settings where students participate as part of their professional development.

*College Website:* <http://www.cphs.wayne.edu/>

## Graduate Programs

Admission and degree requirements for each of the programs can be found in the departmental sections, below. The health science professions are a dynamic component of the metropolitan health care delivery systems that respond to the changing needs of society. Consequently, the statements, provisions, or regulations contained herein are not offers or parts of a contract. The academic departments of this College reserve the right to change at any time any such statement, provision or regulation.

### DOCTOR OF PHARMACY

### DOCTOR OF PHYSICAL THERAPY

### MASTER OF SCIENCE with majors in:

*Occupational and Environmental Health Sciences<sup>1</sup>*

*with specialization in  
Industrial Hygiene  
Industrial Toxicology  
Pharmaceutical Sciences with specialization in  
Medicinal Chemistry  
Pharmaceutics  
Pharmacology/Toxicology*

*MASTER OF SCIENCE in Anesthesia*

*MASTER OF SCIENCE in Physician Assistant Studies*

*MASTER OF SCIENCE in Radiologist Assistant Studies*

*DOCTOR OF PHILOSOPHY with a major in*

*Pharmaceutical Sciences with specialization in  
Medicinal Chemistry  
Pharmaceutics  
Pharmacology/Toxicology*

*GRADUATE CERTIFICATE in Analytical Toxicology for Forensic  
and Environmental Health Scientists*

*GRADUATE CERTIFICATE in Environmental Health and  
Hazardous Materials Control<sup>1</sup>*

*GRADUATE CERTIFICATE in Occupational Safety<sup>1</sup>*

*POST-MASTER'S CERTIFICATE in Industrial Toxicology*

*POST-MASTER'S CERTIFICATE in Pediatric Anesthesia*

## COLLEGE DIRECTORY

**CPHS:** is the University-designated abbreviation for the  
Eugene Applebaum College of Pharmacy and Health Sciences

**DEAN:** Lloyd Young; 2600 CPHS; 577-1574

**ASSOCIATE DEAN FOR HEALTH SCIENCES:**  
Howard J. Normile; 2600 CPHS; 577-1574

**ASSOCIATE DEAN, RESEARCH:**  
Deepak K. Bhalla; 2600 CPHS; 577-3980

**ASSOCIATE DEAN FOR PHARMACY:**  
Richard Slaughter; 2600 CPHS; 577-1574

**ASSISTANT DEAN FOR STUDENT AND ALUMNI AFFAIRS:**  
Mary K. Clark; 1600 CPHS; 577-1220

**ASSISTANT TO THE DEAN:**  
Susan Christie; 2600 CPHS; 577-1574

**OFFICE OF BUSINESS SERVICES, DIRECTOR:**  
Kathy Blumberg; 2600 CPHS; 577-1578

**HUMAN RESOURCES, ASSOCIATE DIRECTOR:**  
Brian N. Wittenberg; 2600 CPHS; 577-5413

**DEVELOPMENT DIRECTOR:**  
Tiffany Cusmano; 2600 CPHS; 577-0273

**ACADEMIC SERVICES OFFICERS:**  
Maira Fracassa; 1600 CPHS; 577-1716  
Michael J. Koltuniak; 1600 CPHS; 577-1716  
Carol Meier; 1600 CPHS; 577-1716  
Shauna Reevers; 1600 CPHS; 577-1716  
Kaprice Williams; 1600 CPHS; 577-1716

**INFORMATION TECHNOLOGY MANAGEMENT:**  
Michele Farrell; 4600 CPHS; 577-1171

## Academic Programs Directory

**FUNDAMENTAL AND APPLIED SCIENCES DEPARTMENT:**  
Chairperson: Peter D. Frade; 5439 Woodward; 577-2050

**CLINICAL LABORATORY SCIENCE:**  
Director: Janet Brown; 5439 Woodward; 577-1384

**MORTUARY SCIENCE:**  
Director: E. David Ladd; Suite 333, 5439 Woodward; 577-2050

**PATHOLOGISTS' ASSISTANT:**  
Director: Peter D. Frade; 5439 Woodward; 577-2050

**HEALTH CARE SCIENCES DEPARTMENT:**  
Interim Chairperson: Doreen Head; 2246 CPHS; 577-1432

**NURSE ANESTHESIA:**  
Prudentia A. Worth; 4605 CPHS; 745-3607

**OCCUPATIONAL AND ENVIRONMENTAL HEALTH SCIENCES:**  
Ed Kerfoot; 5144 CPHS; 577-1210

**OCCUPATIONAL THERAPY:**  
Doreen Head; 2226 CPHS; 577-1435

**PHYSICAL THERAPY:**  
Susan A. Talley; 2246 CPHS; 577-1432

**PHYSICIAN ASSISTANT STUDIES:**  
Stephanie Gilkey; 2540 CPHS; 577-1369

**RADIATION THERAPY TECHNOLOGY:**  
Adam Kempa; 1130 CPHS; 577-1137

**RADIOLOGIC TECHNOLOGY:**  
Kathy Kath; 1130 CPHS; 577-9404

**RADIOLOGIST ASSISTANT STUDIES:**  
Kathy Kath; 1130 CPHS; 577-9404

**PHARMACEUTICAL SCIENCES DEPARTMENT:**  
Chairperson: George B. Corcoran; 3615 CPHS; 577-5145

**PHARMACY PRACTICE DEPARTMENT:**  
Interim Chairperson: Richard Slaughter; 2600 CPHS; 577-1574

*Mailing address for all offices:*  
Eugene Applebaum College of Pharmacy and Health Sciences,  
Wayne State University, 259 Mack Ave., Detroit, Michigan 48201

*Courier Delivery (all offices except Mortuary Science and Clinical  
Laboratory Science):* Eugene Applebaum College of Pharmacy and  
Health Sciences, 259 Mack Ave., Wayne State University, Detroit MI  
48201

1. Effective September 2011 an admission moratorium is in effect for this program.

# Academic Regulations

For complete information regarding academic rules and regulations of the University, students should consult the General Information section beginning on page 6. For purposes of academic rules and regulations, the following definitions apply:

1. **Professional course:** 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:** a grade of 'C' or above, or a grade of 'S.'
3. **Unsatisfactory grade:** 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:** a restricted status in a program (see below).
5. **Dismissal** from a 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 effected.

## 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 other 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 students will devote full time and energy to their academic program. Internships, fieldwork and other pharmaceutical employment is recognized as an integral part of the academic and professional growth of a pharmacy or health science student. However, students are 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.

## Course Elections

The program must be elected on a full-time basis, following the curriculum as outlined in this bulletin, unless specifically directed otherwise by the Committee on Academic and Professional Progress and/or the faculty.

No course may be elected unless a satisfactory grade has been earned in each of the course prerequisites. Registration to audit a course or for courses elected on a Satisfactory or Unsatisfactory (S or U) is permitted only for elective credits, in certain designated courses such as field work, practicum and internships, in excess of the minimum degree requirements, or by guest or post-degree students.

## Leaves of Absence

*A leave of absence may, and should, be requested by a student when personal circumstances interfere with his/her ability to devote sufficient time to academic pursuits to assure reasonable expectations of success.* A leave of absence is requested from and granted by the Dean in consultation with the departmental committee or faculty advisor. If a student requests and is granted an immediate leave of absence during a term, it is the student's responsibility to follow the Pipeline procedures to withdraw from all courses enrolled in for that term as outlined by instructions found online at: <http://sdcl.wayne.edu/RegistrarWeb/Forms/Resources/withdraw.pdf>.

A leave of absence must be requested no later than the end of the twelfth week of the term, or in the case of courses not offered over a traditional semester, prior to completion of seventy-five per cent of the course, and requires a prior consultation with the student's faculty advisor and/or the Assistant Dean for Student and Alumni Affairs.

A student who takes an unauthorized leave of absence will be considered to have voluntarily withdrawn from the program and may be permitted to return only upon the recommendation of the Admissions Committee in consultation with the appropriate departmental committee or faculty advisor.

## Time Limitations

The program must be completed within six calendar years of admission unless an extension is granted by the appropriate departmental academic progress committee or faculty advisor (extensions are appropriate in circumstances such as a delay required to repeat a course preceding or following an authorized leave of absence or an authorized leave of absence that extends beyond one year).

Students who are delayed in their progress for reasons of academic failure and/or leaves of absence beyond the six-year limit may be required to repeat and/or take additional courses in order to assure their graduation with appropriate preparation for contemporary professional practice; such determination will be made by the appropriate departmental academic progress committee in consultation with appropriate faculty.

## Minimum Grade Requirement

No professional course in which an unsatisfactory grade is earned will be counted for degree credit in this program unless repeated for a satisfactory grade.

## Grade Appeals

Following is the grade appeals policy in the Eugene Applebaum College of Pharmacy and Health Sciences:

At the beginning of each term the instructor is to inform students (in writing where feasible and appropriate) 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 by appropriate means. Students should be encouraged to discuss with the instructor any class-related problems.

It is the instructor's prerogative to assign grades in accordance with his/her academic/professional judgment, and the student assumes the burden of proof in the appeals process. Grounds for appeal are: 1) the application of non-academic criteria in the grading process, as listed in the University's Non-Discrimination and Affirmative Action Statute: race, color, sex, national origin, religion, age, sexual orientation, marital status, or handicap; 2) sexual harassment; or 3) evalua-



tion of student work by criteria not directly reflective of performance relative to course requirements.

This policy does not apply to allegations of academic dishonesty. Academic dishonesty matters should be addressed under the Student Due Process Statute (see 'Academic Dishonesty,' below.)

Questions regarding grades, whether a grade on an individual course component or a final grade, properly should be directed to the instructor for resolution. The formal appeal of the grade in question must be initiated in writing within twenty-one calendar days following the student's receipt/knowledge of the grade (for example, return of marked paper, posting of marks, official report of grades). The instructor and each appeal officer in the College shall respond in writing within ten calendar days. Failure of the instructor or any appeal officer to respond within ten days of the formal written 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.

If an appeal is not resolved at the instructor's level, further appeals may be directed to the Departmental Chairperson. If the Chairperson agrees with the instructor's determination, the student may appeal, upon the same bases, to the Dean of the College. If the position of the student is upheld, a recommendation to the instructor that a 'Change of Grade' be effected may be made. If the instructor refuses and there is, in the opinion of the Dean, evidence that the instructor has been arbitrary or capricious in the grading decision, appropriate administrative procedures may be initiated and an administrative 'Change of Grade' may be effected.

## Probation

Any student who earns an unsatisfactory grade in a professional course will be placed on professional probation until the course is satisfactorily repeated or the student dismissed from the program.

Any student who is on probation may not hold student elective or appointive offices (includes professional pharmacy fraternities, student professional organizations, and pharmacy class offices). If a student holding such an office is placed on probation, a hold will be placed on their registration for the following semester until he/she has officially relinquished the position.

## Dismissal from the Program

A student *will be dismissed* from the program for the following reasons:

- a) Failing to earn a satisfactory grade when repeating a professional course.
- b) Earning unsatisfactory grades in seven or more credits of professional course work in a single term.
- c) Accumulating unsatisfactory grades in ten or more credits of professional course work. Unsatisfactory grades count towards this cumulative total even if a satisfactory grade was earned upon repetition of the course(s).
- d) Inability to complete the program within the time limitations outlined above unless granted an extension by the appropriate academic progress committee or the faculty.
- e) Failing to meet any special conditions required by the CAPP or the Faculty for the student's continuation in the program.

## Academic Dishonesty

In any instance of academic dishonesty occurring in any course offered by the Eugene Applebaum College of Pharmacy and Health Sciences, as defined in section 3 of the University Due Process Statute, the provisions of Section 10.1 of the Statute will be implemented as follows: The grade for the course will be reduced to an 'E.' In addition, charges may be filed, as provided for in Section 10.2 of the Statute,

which may lead to further sanctions up to and including expulsion from the College and/or University.

## Academic Review Process

If, upon notification of probation or dismissal, it appears that the action was based on incorrect information or that these academic policies and procedures were not appropriately applied, the appropriate academic progress committee should be immediately notified in writing on the form provided, so that the action can be reviewed. Extenuating personal circumstances will only be considered in cases involving dismissal and/or an extension of the time limitation. Written notice of the appropriate departmental academic progress committee determination will be promptly provided. Following notice of the decision of the appropriate departmental academic progress committee, the student may request a review by the Dean. Following a final decision by the Dean, a procedural review may be sought from the Provost.

Note that this academic review process does not apply to grades. The appropriate departmental academic progress committee will not review the assignment of grades within a course. All appeals regarding grades must follow the procedures described in the 'Grade Appeals' section, above.

## Readmission Following Academic Dismissal

Applications for readmission from students who have been dismissed from the program for academic reasons will only be considered when the applicant has earned a Bachelor of Science or higher degree in one of the physical or life sciences (biology, chemistry, or physics) subsequent to the dismissal. If a readmission is granted, the student may be required to repeat some or all of the previously completed professional courses, if the material covered in the courses has changed to the extent that the student's preparation has become outdated; such determination will be made by the departmental academic progress committee in consultation with the Admissions Committee and appropriate faculty.

Readmitted students will be required to complete all requirements of the curriculum in effect at the time of readmission. This policy applies to any students excluded at the end of the Fall term 1989 and thereafter.

## Student Conduct

Every student is subject to all regulations set forth by the University and the College governing student activities and student behavior in the use of University facilities. The University and the College have responsibility for making these regulations available and it is the student's responsibility to become thoroughly familiar with all regulations and to seek any necessary clarification. Questions and concerns regarding regulations should be brought to the attention of the appropriate faculty member and/or the Dean's office.

There are obligations inherent in registration as a student in the College. Students entering the health science and pharmacy professions are expected to have the highest standards of personal conduct. When there are reasonable grounds to believe a student has acted in a manner contrary to ethical standards, the law, or mores of the community, such student may be disciplined. This discipline may include suspension or dismissal from the program after due process in accord with published policies.

# Mortuary Science

Office: 5439 Woodward Ave.; 313-577-2050

Program Director: E. David Ladd

## Associate Professor

Peter D. Frade, Karen Krisher

## Assistant Professor

E. David Ladd

## Part-Time Instructors and Instructional Assistants

Karen Apolloni, Gail Bentley, Shirley Brogan, Jamyne Cameron, John Canine, Sharon Gee, Deborah Green, Roger Husband, Brett Sojda, Diane Pepper, Trina Sherlitz, Violet Swazer, Michael Wilk, Robert Wilk, Stamatina Ziemba

## Adjunct Professor

David J. Grignon

## Adjunct Associate Professors

Gilbert Herman, Edward J. Kerfoot, Eugene V. Perrin (deceased)

## Adjunct Assistant Professor

Daniel Spitz

## Graduate Certificate in Analytical Toxicology

This certificate program is designed to provide students holding either baccalaureate or master's degrees with an opportunity to broaden their educational background, develop analytical careers in industry, environmental science, and forensic science and public health, as well as provide individuals with technical experiential learning necessary for entry-level laboratory technology positions. This graduate certificate provides elective tracks in DNA analysis, histology, forensic science, and toxicology/chemistry in order to assist in tailoring the program to the individual needs and interest of the student.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. Applicants must have a Bachelor of Science degree or equivalent from an accredited college or university. Undergraduate course work must include the following prerequisites:

1. one term of mathematics at the level of pre-calculus;
2. one year (two terms) of physics or equivalent;
3. one year (two terms) of general chemistry;
4. one term of organic chemistry with laboratory;
5. one term of quantitative chemical analysis; and
6. one year (two terms) of biological science or equivalent.

A minimum grade of 'C' is required in each of the prerequisite courses. An applicant lacking any of the prerequisites will not be eligible for admission. (NOTE: An M.D. or a graduate degree in a related discipline is an acceptable substitute for the above prerequisites.)

Regular admission requires a minimum upper division undergraduate grade point average (g.p.a.) of 2.60 or above. Qualified admission may be granted to those with an upper division g.p.a. between 2.25 and 2.6, if there is evidence of strong performance in the prerequisite courses.

Applicants whose native language is other than English must demonstrate proficiency in English prior to entering the program (see page 20.)

**CERTIFICATE REQUIREMENTS:** Students must complete twelve credits of required core courses that provide the base for the graduate certificate program (M S 5990, 6010, 6335, and 7630). A minimum of six to nine elective credits is then needed to complete the program depending on the choice of specialties that include: DNA, Histology, Toxicology/Chemistry, and Forensic Analysis. Students in the Certificate Program must maintain a grade point average of at least 3.0. Information on available electives and other information may be obtained from the Program office; telephone 313-577-2050.

## GRADUATE COURSES (M S)

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5010 Advanced Forensic Analysis. Cr. 2

Prereq: M S 4010; admission to post-bachelor forensic investigation program. 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. (W)

### 5020 Biochemical Basis of Pathophysiology. Cr. 3

Prereq: BIO 1510, CHM 1030; coreq: BIO 2870 or M S 4050. Review and discussion of the structural biochemical nature of carbohydrates, lipids, proteins/enzymes, and hormones; correlation of disease and pathophysiology resulting from certain important biochemical disorders; discussions of clinical case studies. (F)

### 5050 Clinical Terminology and Methodology. Cr. 3

Clinical terminology and surgical methods for analysis and treatment of human disease. (S)

### 5060 Human Anatomy and Physiology: Pathologists' Assistant. Cr. 4

Prereq: admission to pathologists' assistant program; BIO 2870. Detailed systemic study of human anatomy and physiology; emphasis on cranial, thoracic, and abdominal structures. Laboratory: full human dissection. Material Fee As Indicated In The Schedule of Classes (F)

### 5061 Vertebrate and Human Embryology: Pathologists' Assistant. Cr. 4

Prereq: BIO 1500, BIO 1510, M S 5060; admission to pathologists' assistant program. Comparative fundamental processes in vertebrate/human systems, with human embryological correlations to clinical settings. Material Fee As Indicated In The Schedule of Classes (W)

### 5200 Medical Microbiology for the Technical Professional. Cr. 3

Prereq: BIO 2200 and admission to pathologists' assistant program. Detailed study of commensal organisms of the human and mechanisms of resistance. Identification, by anatomical location, of organisms likely to cause infection; methods required for collection and transportation of microbiological specimens; case studies. Material Fee As Indicated In The Schedule of Classes (F)

### 5250 Applied General Pathology. Cr. 4

Prereq: M S 4050, BIO 4630 or former BIO 5630. Principles of general pathology with special emphasis on clinical correlation, including pediatric pathology. (S)

### 5350 Applied Grief Counseling: Aftercare. Cr. 2

Prereq: M S 3830, M S 3840. Specific factors in the dynamics of grief; grief manifestations in death and in states of chronic diseases; development of general counseling and referral skills; communica-

tion skill-building and self-care practices for the death-field professional. (W)

**5420 Future Trends in Pathology Practice. Cr. 2**

Discussion of changing parameters of clinical pathology practice. Trends associated with healthcare, patient care, technology, legal issues; educational methodology, licensure and accreditation issues; medical ethics and quality management in anatomic pathology. Students present research findings via PowerPoint delivery systems. (W)

**5550 Special Topics in Mortuary Science. Cr. 1-3 (Max. 3)**

Prereq: consent of instructor. Lectures and discussions; invited speakers on current topics in the profession. Topics to be announced in Schedule of Classes. (Y)

**5990 Directed Studies. Cr. 3**

Open only to Mortuary Science Department or Program enrollees. 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. (T)

**5996 (WI) Senior Seminar. Cr. 2**

Open only to Mortuary Science Program enrollees. Contemporary topics impacting modern funeral homes and funeral service professionals. PowerPoint presentations of research findings to communities of interest. (S)

**6010 Forensic Analysis for the Toxicologist. Cr. 3**

Prereq: admission to Graduate Certificate Program in Analytical Toxicology or consent of instructor. 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. (F)

**6020 Current Research in Forensic Analysis. Cr. 3**

Prereq: M S 6010. Physical analysis of materials, substances, chemicals, documents, images and biological evidence, using integrated technologies; introducing current areas of research and development into the forensic laboratory. Students evaluate peer-reviewed research in application of direct or indirect analytical laboratory procedures, techniques, and methodologies in forensic investigation. (W)

**6150 Human Histopathology. Cr. 3**

Prereq: BIO 4630 or former BIO 5630. Standard methodologies and procedures for study of tissue structure and composition; introduction to histology. Laboratory includes performance of standard procedures for study of tissue structure and composition. Collection and processing of selected forensic tissue samples. Material Fee As Indicated In The Schedule of Classes (W)

**6200 Forensic Pathology. Cr. 3**

Role of the medical examiner; scope of forensic pathology: science of recognizing and interpreting diseases of and injuries to the human body as the basis for medico-legal examination. Medical examiner system and duties of the office, signs of death and investigation of the circumstances, anatomic autopsy protocol, legal issues, ancillary studies and analytical techniques. (S)

**6335 Laboratory Approaches to Analytical and Forensic Toxicology. Cr. 3**

Prereq: PHY 2140, CHM 2200, BIO 1510, or consent of instructor. Open to upper level undergraduates only with consent of instructor. Evaluating organic and inorganic samples in biological matrices, from perspective of analytical toxicologist / forensic scientist. Principles of analytic methods; their application in laboratory experiments. Material Fee As Indicated In The Schedule of Classes (W)

**7175 Analytical Applications in Toxicology. Cr. 1**

Discussion of current issues and case studies associated with analysis of toxicants in food, air, water, soil, clinical and forensic specimens. (F)

**7630 Research Techniques in Toxicology. Cr. 2**

Basic techniques and approaches and their application to problem solving in toxicology. (T)



# Nurse Anesthesia

Offices: 4601-4606 CPHS and: 2V-4 Detroit Receiving Hospital;  
DRH phone number: 313-745-3607

Program Director: Prudentia A. Worth;  
313-993-7168; email: aa1635@wayne.edu

Assistant Program Director, and Director Anesthesia Services  
at DRH: Valdor Haglund; 4603 CPHS; 313-577-7641;  
DRH 966-0034; email vthaglund@dmc.org

Educational Clinical Coordinator: Nurse Anesthesia Students:  
Mary Walczyk; 4601 CPHS; 577-7689 DRH 993-7824  
email: mwalczyk@dmc.org

Research Coordinator, Chief Nurse Anesthetist at William Beaumont  
Hospital (WBH): Mary Golinski; 4604 CPHS  
email: mary.golinski@beaumont-hospitals.com

## Assistant Professors

Mary Golinski, Valdor Haglund, Prudentia Worth

## Instructors

Phil Mangahas, Mary Walczyk

## Adjunct Associate Professor

Samuel Perov

## Adjunct Assistant Professor

Maria Zestos

## Adjunct Clinical Instructors

Christine Anderson, Angela Bell, Denise Carrier, Jana Chrumka, Bill Dallas, Jackie DenDooven, Joanne Forsythe, Holly Franson, Amy Friest, Chaaban Haasan, Claudine Hoppen, Raymond Johnson, Philip Kyko, Kelly LaBonty, Trisha Lemieux, Wanda Lowery, Glenn Luther, Lucia Scarpace-Meehan, Rommel Mendoza, David Millan, Bill Oddo, Jan Ollila, Jessica Ouyang, Cindy Peiffer-Barber, John Perkowski, Robert Petrick, Marna Raitanen, Anne Ranella, Louis Ranella, Stephanie Reck, Lindsay Shotwell, Frederick Schneider, Corrine Schurb, Laura Shepard, Bill Sirois, Allison Theisen, Rick VanTuyl, Ruth Watts

## Graduate Degree and Certificate Program

*MASTER OF SCIENCE in Anesthesia*

*POST-MASTER'S CERTIFICATE in Pediatric Anesthesia*

The practice of anesthesia is the process used to render a patient insensible to pain and emotional stress during surgical, obstetrical, or some diagnostic procedures. Nurse anesthesia is an expanded role which implements both nursing and medical functions to a wide patient population for surgical and procedural interventions. The required education builds upon previous nursing experiences by incorporating rigorous scientific knowledge, and applied clinical practices which include general, regional, and local anesthetics, and advanced technology in the delivery of quality and safe anesthesia. The practice of nurse anesthesia includes, but is not limited to: pre- and post-operative assessment, planning, implementing, and managing total and safe anesthesia care to all patients regardless of age level and/or the acuity of circumstance. The nurse anesthetist works with a team of health care providers and in collaboration with anesthesiologists, or other fully-privileged physicians or dentists. Nurse anesthetists are also members on the trauma, and cardiopulmonary resuscitation teams as airway experts to secure and manage difficult airway related problems which may occur in various clinical settings.

**Accreditation:** The program is fully accredited by the Council on Accreditation (COA) of Nurse Anesthesia Educational Programs and the Council for Higher Education Accreditation (CHEA).

## Master of Science in Anesthesia

The program of nurse anesthesia is offered in two curricular options (educational tracks I and II) leading to a Master of Science in Anesthesia.

**TRACK I:** This curriculum is designed for the registered professional nurse with a baccalaureate-degree in nursing or in the sciences. The program consists of twenty-four months of full-time didactic study with continuous clinical integration that involves many hospital affiliates: the Detroit Medical Center hospitals, the Veteran's Administration hospital, and many urban, community, and rural hospitals. The program also has a long term partnership with the Toledo hospital and St Vincent hospitals in Toledo, Ohio which serve as primary clinical sites for students from the Toledo area. Upon completion of the program, graduates are eligible to take the National Certification Examination to practice as a Certified Registered Nurse Anesthetist (CRNA).

Applicants are interviewed annually in the fall in anticipation of admission decisions for enrollment in the subsequent Spring Summer Term. Details about the application process and deadlines are outlined at the program website: <http://www.cphs.wayne.edu/anesth>.

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and satisfactory completion of the undergraduate and graduate prerequisites, followed by a personal interview with the Nurse Anesthesia Admission Committee.

Enrollment occurs annually in the fall; to be eligible for interview, a completed application must be on file in the College Office of Student and Alumni Affairs (1600 APHS) no later than July 1, one year prior to the expected enrollment.

### TRACK I ADMISSION REQUIREMENTS:

- 1) Current licensure as a registered nurse.
- 2) Baccalaureate degree in nursing or related science.
- 3) Cumulative undergraduate grade point average (g.p.a.) of 3.0 or higher on a scale of 4.0 and in all science courses.
- 4) Eight semester credits in organic and Inorganic chemistry, taken within ten years prior to application.
- 5) Four semester credits of biology or microbiology, taken within ten years prior to application.
- 6) Completion of General Graduate Record Examination (GRE) within six years prior to application with a combined minimum score of 300 in verbal and quantitative, and 3.5 on the analytical or written component.
- 7) A minimum of ONE YEAR of full-time experience in an adult intensive care (SICU, MICU, CCU) unit within the past two years.
- 8) Current Advance Cardiac Life Support (ACLS) certification.
- 9) A minimum of one in-hospital "shadow" experience by July 1. The initial "shadow" day is arranged with the program by contacting Ms. Alfred at 313-745-3607 or via email at [jalfred@dmc.org](mailto:jalfred@dmc.org).
- 10) Completion of at least ONE of the following two graduate level prerequisites or their equivalents at Wayne State (or another university) by August 31, with an earned grade of a minimum of 'B'.
  - EER 7630 -- Fundamentals of Statistics: Cr. 3
  - EER 7640 -- Fundamentals of Quantitative Research: Cr. 3

Students applying to take the above prerequisite(s) at Wayne State should complete a permit to register as described below.

To obtain a permit to register form please go online to: <http://www.gradadmissions.wayne.edu/files/gradpermit.pdf>

Applicants should complete the permit to register application and bring a hard copy along with proof of their earned bachelor's degree to the Office of Student and Alumni Affairs located at the Eugene Applebaum College of Pharmacy and Health Sciences, 259 Mack Avenue, Suite 1600, Detroit, MI. Office phone is 313-577-1716.

(NOTE: The permit to register does not negate completion of the Graduate School application which encompasses requirements for the professional program).

It is important that as many of the aforementioned prerequisites (undergraduate and graduate requirements) are met prior to choosing to complete the Graduate School application. This will allow each applicant to more thoroughly answer questions on the application and to upload many of the completed requirements requested on the Graduate School application form. For a Graduate School/professional application go to: <http://gradadmissions.wayne.edu/apply.php>. Interviews are granted if all the requirements listed are met prior to the deadline of July 1.

The application review process is ongoing so as to provide applicants with feedback on the status of their application as well as additional information that might be needed to complete their file. Applicants should activate their Wayne State University email account once they have completed the Graduate Application so that they may receive notifications regarding the status of their application.

NOTE: Applicants whose native language is other than English must demonstrate proficiency in English prior to entering the program (see page 20).

For additional information please contact the program administrators via email:

Mary Walczyk at [mwalczyk@dmc.org](mailto:mwalczyk@dmc.org) or

Prudentia Worth at [aa1635@wayne.edu](mailto:aa1635@wayne.edu)

**TRACK II:** This curriculum is designed for the practicing Certified Registered Nurse Anesthetists (CRNA) with a baccalaureate degree in anesthesia from an accredited nurse anesthesia program. This track is for practitioners who wish to expand their skills in teaching, education and administration. The curriculum is structured to accommodate the practicing CRNA but with a maximum completion time of four years.

**Admission** to this program is contingent upon admission to the Graduate School (see page 18) and satisfaction of the following professional program requirements prior to the personal interview:

**TRACK II ADMISSION REQUIREMENTS:**

1. Current certification and recertification as a nurse anesthetist.
2. Completion of suitable course work in anatomy, physiology and pharmacology for anesthesia.
3. Submission of letters of reference from the applicant's current chief nurse anesthetist, chief anesthesiologist, and one other professional colleague.
4. Submission of official transcripts of both the nursing and anesthesia programs.
5. Be available for a personal interview.
6. Completion of the Graduate Record Examination (GRE).

**DEGREE REQUIREMENTS:** Track I students complete sixty-three credits in professional anesthesia courses and ten credits in graduate prerequisites; Track II students complete thirty-two credits. All course work must be completed in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees; see the section of this bulletin beginning on page 32. The professional program requirements exceed the academic requirements and are described in the program guidelines for students. Courses for each track are listed below.

**Track I: Course Requirements**

- AN 7010 -- Adv. Health & Physical Assessment: Clinical Practicum I: Cr. 1
- AN 7020 -- Clinical Anesthesia Practicum II: Cr. 2
- AN 7030 -- Clinical Anesthesia Practicum III: Cr. 2
- AN 7040 -- Clinical Anesthesia Practicum IV: Cr. 3
- AN 7050 -- Clinical Anesthesia Practicum V: Cr. 3
- AN 7060 -- Clinical Anesthesia Practicum VI: Cr. 2
- AN 7100 -- Pharmacology I: Cr. 4
- AN 7110 -- Pharmacology II: Cr. 3
- AN 7120 -- Advanced Pharmacology of Anesthesia: Cr. 2
- AN 7150 -- Principles of Anesthesia I: Cr. 4
- AN 7160 -- Principles of Anesthesia II: Cr. 3
- AN 7170 -- Principles of Anesthesia III: Cr. 2
- AN 7180 -- Electrocardiography in Anesthesia Practice I: Cr. 1
- AN 7190 -- Electrocardiography in Anesthesia Practice II: Cr. 1
- AN 7240 -- Adv. Pathophysiology for the Anesthetist: Cr. 2
- AN 7500 -- Chemistry and Physics of Anesthesia: Cr. 2
- AN 7600 -- Regional Anesthesia: Cr. 2
- AN 7620 -- Pulmonary Mechanics and Anesthesia Implications: Cr. 2
- AN 7690 -- Clinical Anesthesia Review I: Cr. 1
- AN 7700 -- Clinical Anesthesia Review II: Cr. 1
- AN 7730 -- Process of Teaching: Cr. 2-3
- AN 7780 -- Professional Dimensions of Anesthesia Practice: Cr. 3
- AN 7800 -- Acute and Chronic Pain Management for Nurse Anesthetists: Cr. 1
- AN 7880 -- Anesthesia Seminar: Cr. 1 (Max. 5)
- AN 7885 -- Research Design: Cr. 1
- AN 7890 -- Terminal Project: Cr. 1-3
- PSL 7010 -- Basic Graduate Physiology Lecture I: Cr. 4
- PSL 7030 -- Basic Graduate Physiology Lecture II: Cr. 4

**Track II: Course Requirements**

Track II candidates may vary non-anesthesia course selections with consent of their advisor.

- AN 7590 -- Medical Anatomy for Health Professionals: Cr. 4
- AN 7600 -- Regional Anesthesia: Cr. 2
- AN 7730 -- Process of Teaching: Cr. 2-3
- AN 7880 -- Anesthesia Seminar: Cr. 1 (Max. 4)
- AN 7890 -- Terminal Project: Cr. 1-3
- EER 7630 -- Fundamentals of Statistics: Cr. 3
- NUR 7010 -- Research in Nursing: Cr. 3
- NUR 7710 -- Theoretical Perspectives of Teaching in Nursing: Cr. 3
- NUR 7720 -- Evaluation & Testing in Nursing Education: Cr. 3
- PSL 7010 -- Basic Graduate Physiology Lecture I: Cr. 4
- PSL 7030 -- Basic Graduate Physiology Lecture II: Cr. 4

To qualify for the degree, all required courses must be satisfactorily completed with a cumulative grade point average of 3.0 or above. Classes are offered in sequence and are only offered annually. Repeating a class following an unsatisfactory grade is not feasible due to the progressive sequence in which the curriculum is structured. The professional program requirements on grades are listed in the program of anesthesia guidelines and are reviewed with students during their orientation.

**Advisors:** Track I students are assigned a uniform *Plan of Work*, and the faculty serve as advisors throughout the program including the terminal project or research assignment. Track II students have an advisor assigned to them by the Director of the program, who approves the student's *Plan of Work* and other necessary forms. All students must exhibit satisfactory performance and maintain a grade point average of 3.0 or above.

**Candidacy:** Track I applicants will be advanced to candidacy upon completion of the first semester courses.

Track II applicants must file a *Plan of Work* with their advisor prior to the completion of twelve graduate credits. Applicants who have not been advanced to candidacy by the time twelve graduate credits have been completed may be denied further registration in the program.

**Academic Progress:** Continuance in the master's program depends upon satisfactory progress as determined by the advisor and program director. Students who have not registered for two or more consecutive semesters will be placed on inactive status. To continue with the curriculum ( Tracks I or II) the faculty and the program director will determine the most appropriate choices for the student.

## Post-Master's Certificate in Pediatric Anesthesia

Developed in collaboration with Children's Hospital of Michigan (CHM), the Graduate Certificate Program in Pediatric Anesthesia is offered to graduates with a Master of Science in Anesthesia from an accredited program who wish to specialize in pediatric anesthesia. Students completing the Master of Science in Anesthesia may apply to the program during their last semester of the curriculum.

**Admission:** Applicants must meet the admission requirements of the Graduate School, see page 18. In addition applicants must meet with the course coordinators from Children's Hospital of Michigan to determine eligibility to enter the program. Graduates must complete admission application on line and register for classes once admission is granted. Upon completion of the program, the graduate must apply on line for a Post-masters Certificate in Pediatric Anesthesia.

**CERTIFICATE REQUIREMENTS:** The Certificate Program consists of a minimum of twelve semester credits in course and clinical work. Students in the certificate program must maintain a grade point average of at least 3.0. For additional information, contact the Nurse Anesthesia Program and the coordinator for Children's Hospital Anesthesia Department.

Courses and Clinical requirements:

- AN 7070 -- Clinical Practice I: Cr. 2
- AN 7080 -- Clinical Practice II: Cr. 3
- AN 7900 -- Advanced Pediatric Topics: Cr. 2
- AN 7910 -- Special Topics in Pediatric Anesthesia: Cr. 2
- AN 7920 -- Case Presentations: Cr. 2

## Student Manual

A student handbook is provided by the anesthesia program, containing policy statements on admission, and degree requirements. Students should be sure to consult this handbook for the current policies.

## GRADUATE COURSES (AN )

The following courses are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7010 Advanced Health and Physical Assessment: Clinical Anesthesia Practicum I. Cr. 1**

Offered for S and U grades only. Prereq: Registered Nurse, admission to professional curriculum. Introduction to clinical anesthesia application. (F)

### **7020 Clinical Anesthesia Practicum II. Cr. 2**

Prereq: Registered Nurse, admission to professional curriculum. Continuation of AN 7010. (W)

### **7030 Clinical Anesthesia Practicum III. Cr. 2**

Prereq: AN 7020. Continuation of AN 7020. (S)

### **7040 Clinical Anesthesia Practicum IV. Cr. 3**

Prereq: AN 7030. Continuation of AN 7030. (F)

### **7050 Clinical Anesthesia Practicum V. Cr. 3**

Prereq: AN 7040. Continuation of AN 7040. (W)

### **7060 Clinical Anesthesia Practicum VI. Cr. 2**

Prereq: AN 7050. Continuation of AN 7050. (S)

### **7070 Clinical Practice I. Cr. 2**

Prereq: admission to professional curriculum; R.N., CRNA, GRNA. Outpatient anesthesia practice; focus on airway management. (T)

### **7080 Clinical Practice II. Cr. 3**

Prereq: admission to professional curriculum; R.N., CRNA, GRNA. Managing complex pediatric cases involving craniofacial problems, craniotomies, spinal fusion, and abdominal cases. (T)

### **7090 Clinical Practice III. Cr. 1**

Prereq: admission to professional curriculum; R.N., CRNA, GRNA. Clinical experience with complex cardiac diseases requiring thoracic and cardiopulmonary bypass. (T)

### **7100 Pharmacology I. Cr. 4**

Prereq: Registered Nurse, admission to professional curriculum. Pharmacology as it relates to anesthesiology; pharmacokinetics and pharmacodynamics. Material Fee as indicated in the Schedule of Classes (F)

### **7110 Pharmacology II. Cr. 3**

Prereq: Registered Nurse, AN 7100. Analysis of theories of pharmacology. Material Fee as indicated in the Schedule of Classes (W)

### **7120 Advanced Pharmacology of Anesthesia. Cr. 2**

Prereq: R.N., admission to professional curriculum. General qualitative and quantitative aspects of pharmacology. Interaction and kinetics of pharmacologic agents and their relationship to anesthetic practice. (F)

### **7150 Principles of Anesthesia I. Cr. 4**

Prereq: Registered Nurse, admission to professional curriculum. Principles and usage of all anesthesia equipment including electronic instrumentation. Theoretical exploration of various techniques of anesthesia. Material Fee as indicated in the Schedule of Classes (F)

### **7160 Principles of Anesthesia II. Cr. 3**

Prereq: Registered Nurse, AN 7150. Advanced knowledge in application and use of modern anesthesia monitoring technology. Material Fee as indicated in the Schedule of Classes (W)

### **7170 Principles of Anesthesia III. Cr. 2**

Prereq: AN 7150, 7160, Registered Nurse, admission to professional curriculum. Continuation of AN 7160. Material Fee as indicated in the Schedule of Classes (S)

### **7180 Electrocardiography in Anesthesia Practice I. Cr. 1**

Prereq: R.N., AN 7150, admission to Professional Nurse Anesthesia Program. 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. Material Fee as indicated in the Schedule of Classes (F,W)

### **7190 electrocardiography in Anesthesia Practice II: Cr. 1**

Prereq: AN 7180 and admission to the professional program for nurse anesthetists. Advanced cardiovascular pathophysiology, assessing, diagnosing cardiac dysfunctions, and integration of appropriate clinical interventions in the anesthetic management plan of care. Material Fee as indicated in the Schedule of Classes (F)

### **7200 Advanced Physiology. Cr. 4**

Anatomic structures and related physiological mechanisms governing cellular, respiratory, CV, neurological, hematological and renal systems. Understanding physiology as it relates to anesthesia. (Y)

### **7210 Physiology and Pathophysiology for the Anesthetist. Cr. 4**

Prereq: AN 7200. Advanced knowledge in physiology as it relates to anesthesia practice: respiratory, neurological, endocrine and renal system. (W)

**7240 Advanced Pathophysiology for Anesthetists. Cr. 2**

Prereq: PSL 7030, RN, and admission to the professional program for nurse anesthetists. Advanced knowledge in physiology, in-depth analysis of disease processes; correlation of pathophysiology, pharmacology, and advanced principles of anesthesia care. Material Fee as indicated in the Schedule of Classes (S)

**7500 Chemistry and Physics of Anesthesia. Cr. 2**

Prereq: Registered Nurse, admission to professional curriculum. Analysis and principles of chemistry and physics as applied to anesthesia. Material Fee as indicated in the Schedule of Classes (F)

**7590 Medical Anatomy for Health Professionals. Cr. 4**

Prereq: admission to nurse anesthesia program. Structural and functional aspects of the human body; relationships to nurse anesthesia practice. Study of regions in which anesthesia may be induced. Material fee as given in Schedule of Classes. (S)

**7600 Regional Anesthesia. Cr. 2**

Prereq: Registered Nurse; AN 7590; written consent of advisor; admission to the professional curriculum. 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. Material Fee as indicated in the Schedule of Classes (S)

**7620 Pulmonary Mechanics and Anesthesia Implications. Cr. 2**

Prereq: Registered Nurse; AN 7200 or equiv.; admission to professional program. Advanced evaluation of cardiopulmonary/respiratory complication. Clinical anesthesia care. (F)

**7690 Clinical Anesthesia Review I. Cr. 1**

Prereq: AN 7170, RN, and admission to the professional program for nurse anesthetists. 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. Material Fee as indicated in the Schedule of Classes (W)

**7700 Clinical Anesthesia Review II. Cr. 1**

Prereq: AN 7170, RN, and admission to the professional program for nurse anesthetists. Use theoretical concepts and advanced clinical principles in perfecting the art and science of anesthesia practice with emphasis on preparation for board examination. Material Fee as indicated in the Schedule of Classes (S)

**7730 Process of Teaching. Cr. 2-3**

Prereq: CRNA, Registered Nurse, consent of advisor. Instruction in and clinical application of nurse anesthesia process. Material Fee as indicated in the Schedule of Classes (S)

**7780 Professional Dimensions of Anesthesia Practice. Cr. 3**

Prereq: consent of advisor. Analysis of role of professional anesthesia associations, anesthesia accreditation agencies, hospital and governmental regulatory agencies relating to nurse anesthesia practice. Material Fee as indicated in the Schedule of Classes (W)

**7800 Acute and Chronic Pain Management for the Anesthetist. Cr. 1**

Prereq: AN 7600, RN, Admission to the professional program for nurse anesthetists. Review of pain pathway, Physiological effects of acute and chronic pain and specific interventions for management of the specific pain type. (S)

**7880 Anesthesia Seminar. Cr. 1 (Max. 4-5)**

Prereq: CRNA; consent of advisor. Current developments in concepts and theories of nurse anesthesia. (T)

**7885 Research Design for Anesthesia. Cr. 2**

Prereq: RN, CRNA, consent of advisor. Research methodologies, including quantitative and qualitative statistical techniques. Emphasis

on designing, implementing, and evaluating health care research. (Y)

**7890 Terminal Project. Cr. 1-3**

Prereq: CRNA; consent of advisor. Finalization of research; preparation for poster submission, publication and presentation of research. Material Fee as indicated in the Schedule of Classes (T)

**7900 Advanced Pediatric Topics. Cr. 2**

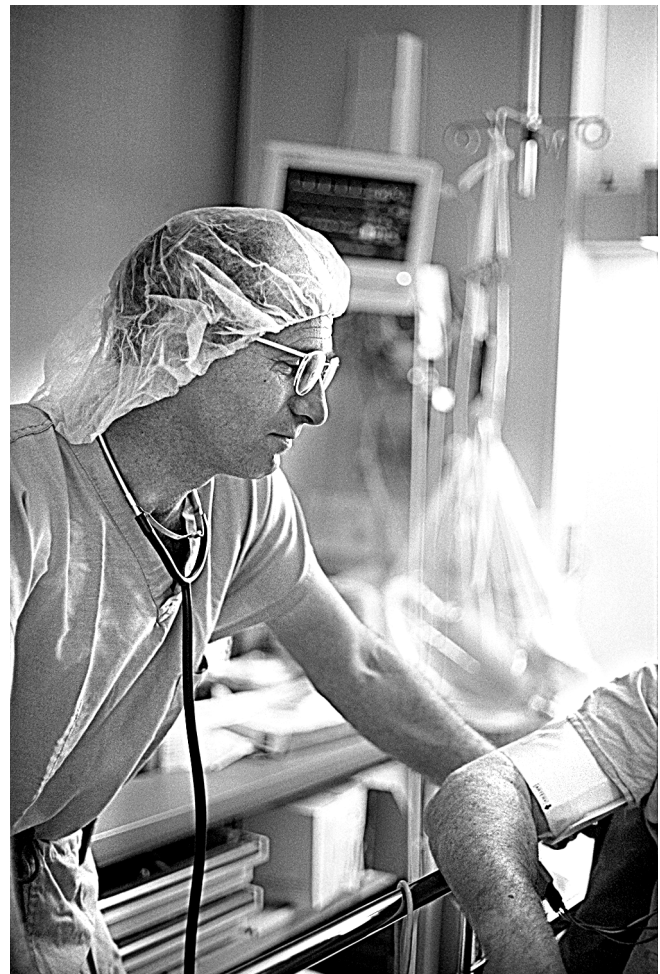
Prereq: admission to professional curriculum; R.N., CRNA, GNA. Detailed advanced lectures in specific pediatric topics. (T)

**7910 Special Topics in Pediatric Anesthesia. Cr. 2**

Prereq: admission to professional curriculum; R.N., CRNA, GNA. Common pediatric problems; in-depth knowledge on neonatal anesthesia. (T)

**7920 Case Presentations. Cr. 2**

Prereq: admission to professional curriculum; R.N., CRNA, GNA. Anatomy and physiology of various diseases including principles of anesthetic management. (T)



# Occupational and Environmental Health Sciences

Office: 5148 CPHS; 313-577-1551

Program Director: Edward J Kerfoot

Website: <http://www.cphs.wayne.edu/oehs/>

## Professors

Andrew L. Reeves (Emeritus), Peter O. Warner

## Associate Professors

Edward J. Kerfoot, Sarunas S. Mingela, Dennis O'Brien, William D. Watt

## Part-Time and Adjunct Faculty

Bengt Arnetz, David Bassett, Deepak Bhalla, James E. Blessman, John Graff, Hikmet Jamil, Leonard L. Jensen, Bradley Joseph, Gene X. Kortsha, Steven D. Paul, Howard J. Sawyer, Maryjean Schenk, James Skupski, Bonita Taffe, Roger L. Wabeke

## Graduate Degree and Certificate Programs

*MASTER OF SCIENCE with a major in Occupational and Environmental Health Sciences and specializations in industrial hygiene, and industrial toxicology*

*GRADUATE CERTIFICATE in Occupational Safety*

*GRADUATE CERTIFICATE in Environmental Health and Hazardous Materials Control*

*POST-MASTER'S CERTIFICATE in Industrial Toxicology*

The Occupational and Environmental Health Sciences program was eliminated in 2012 and will not be enrolling any new students. The program will remain open only to provide currently enrolled students an opportunity to complete their degree requirements. The following contents are printed for documentary purposes citing the degree requirements in effect as of the termination date.

The Occupational and Environmental Health Sciences are disciplines grounded in the basic sciences but with a distinctly practical purpose. Protection of the health of the working person, and assessment and abatement of hazards from air, water and solid waste pollution are fascinating areas of scientific research and socially valuable forms of technical activity. As new industrial processes continue to be introduced at an ever-increasing pace, and as the medical profession progresses by shifting its emphasis from cure to prevention, the specialist in occupational and environmental health sciences can look forward to increasing importance in tomorrow's world. Applicants come from such diverse backgrounds as agriculture, biology, chemistry, engineering, clinical laboratory science, medicine, pharmacy, physics, pre-medicine and radiation therapy technology. Part-time evening study is offered in the occupational and environmental health sciences program.

**Program Objectives:** Consistent with the mission and strategic plan of Wayne State University, the educational objectives of the Occupational and Environmental Health Sciences graduate programs in the Eugene Applebaum College of Pharmacy and Health Sciences include:

1. The recruitment and retention of a diverse population of outstanding students.
2. The preparation of students for careers in the Occupational and Environmental Health Sciences and related disciplines.

3. The promotion of individual professional development.
4. The support of the community and industrial needs of southeastern Michigan.

## Master of Science with a Major in Occupational and Environmental Health Sciences

This degree is offered with curricular options in: Industrial Hygiene, and Industrial Toxicology

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants must have a bachelor's degree from an accredited college or university. Undergraduate course work must include the following prerequisites:

1. One term of mathematics at the level of pre-calculus (minimum) or calculus (preferred).
2. One year (two terms) of physics or equivalent.
3. One year (two terms) of biological science or equivalent.
4. One year (two terms) of general chemistry.
5. One term of organic chemistry.
6. One term of quantitative analysis.

A minimum grade of 'C' is required in each prerequisite course.

Applicants to the industrial hygiene program must also meet the undergraduate requirements of the Accreditation Board of Engineering and Technology Applied Sciences Accreditation Commission (ABET-ASAC). ABET-ASAC website is: <http://www.abet.org> — 111 Market Place, Suite 1050, Baltimore MD 21202-4012; tel: 410-347-7700. Contact the Program for further information.

Any applicant lacking two or more of the above prerequisites is not eligible for admission. Prerequisites may be completed at other institutions, including community colleges, or at Wayne State as a Post-Bachelor student (see page 20 for additional information). Application for Post-Bachelor status is made at the Office of University Admissions, Welcome Center, 42 W. Warren, Wayne State University, Detroit MI 48202.

**Regular admission** requires a minimum upper division (junior and senior years) grade point average of 2.6. Qualified admission may be granted to those with an upper division grade point average between 2.25 and 2.6 if there is strong performance in the prerequisite courses.

The General portion of the Graduate Record Examination (GRE) is required of all applicants except in unusual cases where an applicant has substantial prior experience in medicine, occupational health, or industrial hygiene at a senior level of responsibility. Applicants will be expected to achieve a combined score of at least 1000 on the verbal and quantitative sections and 4.0 on the analytical section of the GRE.

For those students applying to the occupational and environmental health sciences program, an M.S., M.P.H., M.D., M.B., D.D.S., D.V.M. or D.O. degree from an accredited program will be acceptable in lieu of the above undergraduate course and GRE requirements.

Applicants whose native language is other than English must demonstrate proficiency in English prior to beginning the program (see page 20).

Admission is granted primarily for the fall semester. In order to assure a decision on admissibility; completed applications should be received no later than August 1st. Applications may be accepted throughout the year, but it should be noted that only elective courses may be available during that time, prior to the completion of introductory coursework offered in the fall.



**Application** materials may be obtained by contacting Occupational and Environmental Health Sciences, Eugene Applebaum College of Pharmacy and Health Sciences, Wayne State University, Detroit, Michigan 48202.

**DEGREE REQUIREMENTS:** The program consists of a minimum of thirty-two credits for industrial hygiene (IH) or industrial toxicology (IT) taken under one of the following plans:

**Plan A** requires a minimum of twenty-four credits for IH or IT in coursework plus a thesis (eight credits) and is available to those specializing in either of the two M.S. degree sub-specialties.

**Plan B** requires a minimum of twenty-eight to thirty credits for IH or IT in coursework plus an essay (two - four credits) and is available to those specializing in either of the two M.S. degree sub-specialties.

**Plan C** requires a minimum of thirty-two credits for IH in coursework and directed studies (Plan C is not available to those specializing in industrial toxicology).

Each candidate will complete the required courses listed below for each of the two specialties, as well as sufficient elective courses to accrue the required number of credits. Electives will vary with the student's previous preparation and interests. These will be determined mutually by the student and the advisor, with review and approval by the College Graduate Officer through endorsement of the *Plan of Work*. All course work must be completed in accordance with the academic policies of the Graduate School governing graduate scholarship and degrees and degrees; see the section of this bulletin beginning on page 32.

Students may pursue a dual specialization in both industrial hygiene and toxicology. Dual specialization requires the completion of the required courses for each specialization, and sufficient electives to satisfy the minimum requirement of thirty-two credits. Students in the M.S. degree program are encouraged to take courses for the graduate certificate concurrently to broaden their background in other disciplines.

To qualify for the degree, all courses specified on the Plan of Work must be satisfactorily completed with a cumulative grade point average of at least 3.0. The thesis or essay and at least half of the remaining credits must be earned in the major subject. FINAL COMPREHENSIVE EXAMINATIONS, BOTH WRITTEN AND ORAL, ARE REQUIRED OF ALL CANDIDATES AND SHOULD BE TAKEN ONLY AFTER SUCCESSFUL COMPLETION OF ALL REQUIRED COURSE or in the last term of coursework. If Plan A or Plan B is followed, the final oral examination includes a defense of the thesis or essay.

*Plan A* candidates, after successful completion of the oral examination, must deliver the original and two unbound copies of the approved thesis to the Graduate School Office (4300 Faculty/Administration Building) for binding. A copy of the binding receipt must be provided to the College Graduate Officer before the degree can be certified.

*Plan B* candidates, after successful completion of the oral examination, must deliver three copies of the essay, provided by the candidate — one to the advisor and two to the College Graduate Officer, prior to certification of the degree.

### **Industrial Hygiene Requirements**

- OEH 7010 -- Principles of Industrial Hygiene and Toxicology: Cr. 3
- OEH 7090 -- Seminar: Frontiers in Industrial Hygiene: Cr. 1
- OEH 7120 -- Principles of Industrial Noise Control: Cr. 3
- OEH 7300 -- Industrial Toxicology: Cr. 3
- OEH 7390 -- Introduction to the Epidemiology of Occupational and Environmental Diseases: Cr. 2
- OEH 7510 -- Air Sampling and Analysis: Cr. 3
- OEH 7600 -- Principles of Industrial Ventilation: Cr. 3
- OEH 7610 -- Statistics and Risk Management in OEHS: Cr. 3
- OEH 7720 -- Industrial Hygiene Control Methods: Cr. 2
- OEH 7840 -- Occupational Health Management: Cr. 2

- OEH 7990 or OEH 7999 or OEH 8999
  - Directed Study (for Plan C): Cr. 2-4
  - Master's Essay (for Plan B): Cr. 2-4
  - Master's Thesis Research & Direction (for Plan A): Cr. 2-8

Coursework follows the requirements of the Accreditation Board of Engineering Technology (ABET) Applied Sciences Accreditation Commission (ASAC), and the areas covered by the American Board of Industrial Hygiene (ABIH), which govern the accreditation of Industrial Hygiene Programs and Certification of practitioners, respectively.

### **Industrial Toxicology Requirements**

- OEH 7010 -- Principles of Industrial Hygiene and Toxicology: Cr. 3
- OEH 7090 -- Seminar: Frontiers in Industrial Hygiene: Cr. 1
- OEH 7300 -- Industrial Toxicology: Cr. 3
- OEH 7310 -- Critical Issues in Toxicology: Cr. 2
- OEH 7330 -- Selected Topics in Toxicology: Cr. 2
- OEH 7390 -- Intro. to the Epidemiology of Occupational and Environmental Diseases: Cr. 2
- OEH 7420 -- Principles of Environmental Health: Cr. 3
- OEH 7510 -- Air Sampling and Analysis: Cr. 3
- OEH 7610 -- Statistics and Risk Management in OEHS: Cr. 3
- OEH 7870 -- Periodical Literature in Occupational Health: Cr. 1
- OEH 7999 or OEH 8999
  - Master's Essay (for Plan B): Cr. 2-4
  - Master's Thesis Research & Direction (for Plan A): Cr. 2-8

This coursework meets some of the requirements leading to eligibility for board certification in occupational medicine. For information about the residency program, contact the WSU Occupational Medicine Residency Program coordinator: 313-577-1424. The program is accredited by the Accreditation Council for Graduate Medical Education (ACGME), Suite 2000, 515 N. State St., Chicago IL 60610-4322; 312-755-5000; <http://www.acgme.org/acWebsite/home/home.asp> Also see the M.P.H. degree on page 441.

### **Recommended Electives**

#### **for Industrial Hygiene and/or Industrial Toxicology**

*(Required courses from the other specialty or other graduate level electives may be selected with the approval of the advisor and the college graduate officer.)*

- OEH 6250 -- Intro. to Occupational Health & Safety Training: Cr. 2
- OEH 7080 -- Industrial Hygiene Practice: Cr. 2
- OEH 7110 -- Occupational Ergonomics: Cr. 2
- OEH 7160 -- Current Topics in Occupational and Env. Health: Cr.1
- OEH 7270 -- Radiation Safety: Principles and Practice: Cr. 2
- OEH 7280 -- Occupational Safety: Cr. 2
- OEH 7290 -- Principles of System & Process Safety Mgt.: Cr. 3
- OEH 7520 -- Optical Microscopy for Industrial Hygienists: Cr. 2
- OEH 7820 -- Regulatory Affairs in OEH: Cr. 2
- OEH 7860 -- Principles of Occupational Health: Cr.3
- OEH 7990 -- Directed Study: Cr. 1-4

*(Other graduate-level electives may be selected with the approval of the advisor and college graduate officer. Note that at least one-half of the total credits on the Plan of Work must be in the OEH major.)*

**Advisors:** The admissions committee appoints an initial advisor to all new students during the first semester. During this semester, the applicant is encouraged to meet with all graduate faculty in the area and choose an advisor in their area of interest. If the applicant desires to follow Plan A or Plan B, the advisor will direct the student's research for the thesis or essay. The advisor will also sign the student's *Plan of Work* and any other necessary forms.

**Candidacy:** Applicants apply to the College Graduate Officer (1600 CPHS) to become degree candidates by filing a *Plan of Work*, approved by their advisor, prior to the completion of twelve graduate credits in the program. To qualify, applicants must exhibit satisfactory scholarship (graduate grade point average of 3.0 or above), have completed any prerequisite and/or corequisite courses specified at the time of admission, and have regular admission status. Applicants

who have not been advanced to candidacy by the time twelve graduate credits have been completed may be denied further registration in the program.

**Academic Progress:** Continuance in the master's program depends upon satisfactory progress as determined by the advisor, the Program Director or Department Chair and the College Graduate Officer. Students who have not registered for two or more consecutive semesters will be placed on inactive status and must obtain the permission of the advisor, the program director and the college graduate officer before registering again.

## Graduate Certificate in Occupational Safety

This program is designed to provide occupational and environmental health professionals with either baccalaureate or master's degrees with an opportunity to broaden their educational background to include occupational safety, and so assist them to obtain certification as a safety professional (CSP). This graduate certificate program is also designed to introduce recent science graduates to occupational and environmental health and safety, and so increase their opportunities to obtain an entry-level position in the field.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. Applicants must have a Bachelor of Science degree or equivalent from an accredited four year college or university. Undergraduate course work must include the following prerequisites:

1. one term of mathematics at the level of pre-calculus (minimum) or calculus (preferred);
2. one year (two terms) of physics (or equivalent);
3. one year (two terms) of general chemistry.

A minimum grade of 'C' is required in each of the prerequisite courses. An applicant lacking any of the prerequisites will not be eligible for admission. (NOTE: An M.D. or a graduate degree in a related discipline is an acceptable substitute for the above prerequisites.)

*Regular admission* requires a minimum upper division undergraduate grade point average (g.p.a.) of 2.60 or above. *Qualified admission* may be granted to those with an upper division g.p.a. between 2.25 and 2.6, if there is evidence of strong performance in the prerequisite courses.

Applicants whose native language is other than English must demonstrate proficiency in English prior to entering the program (see page 20.)

**CERTIFICATE REQUIREMENTS:** Students must complete fourteen credits including: 1) seven credits in required courses (OEH 6250, 7280, and 7290), and 2) seven credits in approved electives. Students in the Certificate Program must maintain a grade point average of at least 3.0. Information on available electives and other information may be obtained from the Program office; telephone 313-577-1551.

## Graduate Certificate in Environmental Health and Hazardous Materials Control

This certificate program is designed for students with a baccalaureate degree who qualify for acceptance into the Graduate School and who wish to enhance their knowledge of the field of environmental health and hazardous materials control. This program is also suitable for students with a Master's degree in industrial hygiene, toxicology or a related health science field from an accredited four year college or university. Students enrolled in the Master's degree program in industrial hygiene, toxicology or occupational and environmental health who wish to extend their current program to include the area of environmental health and hazard control are also eligible.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. Applicants must have a Bachelor of Science degree or equivalent from an accredited four year college or university. Undergraduate course work must include the following prerequisites:

1. one term of mathematics at the level of pre-calculus (minimum) or calculus (preferred);
2. one year (two terms) of physics (or equivalent);
3. one year (two terms) of general chemistry.

A minimum grade of 'C' is required in each of the prerequisite courses. An applicant lacking any of the prerequisites will not be eligible for admission. (NOTE: An M.D. or a graduate degree in a related discipline is an acceptable substitute for the above prerequisites.) Undergraduate grade point averages (g.p.a.) equal to or greater than 2.6 is required for regular admission. The GRE is not required for admission to this certificate program but will be required together with additional prerequisite undergraduate courses for subsequent acceptance into the M.S. degree programs of the department.

**CERTIFICATE REQUIREMENTS:** Students must complete a minimum of thirteen credits including five required core courses (OEH 7420, 7820, 7160, and 7090) and a minimum of eight credits of approved elective courses. Students in the Certificate Program must maintain a grade point average of at least 3.0. Information on available electives and other information may be obtained from the Program office, telephone 313-577-1551.

## Post-Master's Certificate in Industrial Toxicology

This Graduate Certificate in Toxicology is responsive to the projected demand and interests of professionals in industrial toxicology, industrial hygiene, and related health disciplines, for continuing and updating their knowledge of current issues in toxicology. Students in the master's program in industrial hygiene may benefit by expanding their present program into areas of toxicology; and those already employed in industry may improve job and career prospects by completing additional work beyond the master's degree. In addition, the certificate prepares health and safety professionals to respond to changing issues and emphasizes in their profession, and is an opportunity for continuing education for master's degree holders in industrial hygiene and toxicology. This certificate program is consistent with the objectives of presenting part-time graduate education to those in the southeastern Michigan and southwestern Ontario area who are employed full-time.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. Eligibility for this program is open to students holding an M.S., M.P.H., or M.D. degree who have successfully completed at least one course in toxicology at the graduate level. The Graduate Record Examination is not required, but applicants are required to provide a statement of work experience and educational objectives. (NOTE: Certain requirements may be waived for applicants with long-standing experience in toxicology-related fields which is judged by the Program to satisfy academic equivalents.)

**CERTIFICATE REQUIREMENTS:** The Certificate Program consists of six credits in required core courses (OEH 7310, 7330, 7990 or 7999, plus a minimum of eight credits in electives. If a student has already completed a required course as part of their master's degree program, a substitute shall be chosen to complete the fourteen-credit total. For additional information, contact the Program office; telephone: 313-577-1551.

## Toxicology (Ph.D. Program)

The Department of Pharmaceutical Sciences offers a Ph.D. program in pharmaceutical sciences with a specialization in pharmacology/toxicology.; see the section beginning on page 511 for further information.

## Student Manual

A student policy and information manual, provided by this Program, contains policy statements that may pertain to admission, candidacy, and degree requirements. Students should be sure to consult this manual for the current statements on these policies.

## Financial Aid

Sources of financial aid for graduate students are enumerated in the section on Graduate Financial Assistance beginning on page 26 of this bulletin. In addition, there are a limited number of teaching assistantships available to qualified students. Inquiries should be directed to the Program Director.

**Other Scholarships:** These include awards of variable amounts from the American Industrial Hygiene Foundation, and from the David M. Thornton Memorial Fund, which are available to students accepted in the OEHS Program. Contact the Program office for details.

## GRADUATE COURSES (OEHS)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **6250 Introduction to Occupational Health and Safety Training. Cr. 2**

Survey course: presents the organizational elements of training process for health and safety professionals who have increasing responsibility for administering health and safety programs. (F)

### **7010 Principles of Industrial Hygiene and Toxicology. Cr. 3**

Fundamentals of industrial hygiene, recognition of toxic agents, evaluation procedures and engineering control methods. Material Fee as indicated in the Schedule of Classes (F)

### **7080 Industrial Hygiene Practice. Cr. 2**

Prereq: OEHS 7010, 7060, or 7075. Four two-hour field visits per term, guided by an industrial hygienist, to observe monitoring and control practices in the field. Students prepare written reports. (S)

### **7090 Seminar: Frontiers in Industrial Hygiene. Cr. 1**

Informative presentations by leaders in the field of industrial hygiene, toxicology, occupational medicine, pollution control and environmental health. (W)

### **7110 Occupational Ergonomics. Cr. 2**

Ergonomic perspective of skeletal and muscular biofunctions as they are related to industrial, office or general employment situations. (B:S)

### **7120 Principles of Industrial Noise Control. Cr. 3**

Prereq: OEHS 7010, 7060, or 7075. Fundamentals of sound propagation and measurement; use of sound level meters, frequency analyz-

ers, and audiometric devices; sound abatement methods. Material Fee as indicated in the Schedule of Classes (B:W)

### **7130 Emergency Response Planning. Cr. 2**

Prereq: OEHS 7010 for M.S. students; consent of advisor for Graduate Safety Certificate students. Principles and practices of the Incident Command System of response to industrial emergencies such as fire, hazardous materials spills, and similar emergencies that may occur in the institution, workplace, or general community. (W)

### **7150 Health and Safety for Hospitals and Other Institutions. Cr. 2**

Prereq: OEHS 7010 for master's students; consent of instructor for graduate occupational safety certificate students. Comprehensive overview: identification, evaluation and control of health and safety hazards in healthcare organizations and other institutions, such as universities and municipalities. (F)

### **7160 Current Topics in Occupational and Environmental Health. Cr. 1**

Discussion on public health issues that include ground water and surface water management, indoor and urban air pollution, environmental disease vectors, solid and liquid waste disposal, food safety, and community health regulations. (F)

### **7260 Occupational Health and Safety in Construction. Cr. 2**

Introduction to the identification and control of various health and safety aspects of construction work, and the interpretation and application of health and safety regulations pertinent to the construction industry. (F)

### **7270 Radiation Safety: Principles and Practice. Cr. 2**

Basic principles and practices of radioactivity; interactions of radiation with matter. Dosimetry, instrumentation, internal and external radiation protection. Principles and practice of radiation safety in the work environment. Material Fee as indicated in the Schedule of Classes (S)

### **7280 Occupational Safety. Cr. 2**

Basic job safety analysis: machine guarding, fire protection, material handling and ergonomics. (W)

### **7290 Principles of System and Process Safety Management. Cr. 3**

Principles and philosophy of system and process safety management as applied to products and materials, processes, community environments, avocations and sports, residential settings, transportation, construction, and workplace settings. Emphasis on anticipation of hazards and applying scientific and statistical concepts of risk management to prevent injuries, illnesses, deaths, and significant property damage. (S)

### **7300 Industrial Toxicology. Cr. 3**

Prereq: OEHS 7010, 7060, or 7075. Adverse effects of hazardous wastes on living tissue. Occupational and environmental poisonings to various organ systems; mutagenesis and carcinogenesis. Laboratory studies of modes of exposure of experimental animals to toxic agents and measurements of their effects. (W)

### **7310 Critical Issues in Toxicology. Cr. 2**

Prereq: OEHS 7300. Survey of metals and their compounds, industrial gases, and mineral dusts from the viewpoint of their toxicity. (B:F)

### **7330 Selected Topics in Toxicology. Cr. 2**

Prereq: OEHS 7300. State-of-the-art information on contemporary topics, regulatory concepts, and emerging issues in toxicology. (B:F)

### **7350 Toxicology for Hazardous Waste Managers. Cr. 3**

Prereq: MAT 1800, BIO 1510, CHM 1080; or equiv. Information for specialists in hazardous waste management regarding toxicology of materials encountered in the field. (I)

**7390 Introduction to the Epidemiology of Occupational and Environmental Diseases. Cr. 2**

Prereq: OEH 7300 or consent of instructor; coreq: OEH 7610. Epidemiology of industry-related diseases and the pathophysiological changes associated with common occupational or environmental exposures, risk factors associated with the worker population and study limitations will be discussed in the context of actual case studies. Class discussion will evaluate how study results may guide health-based decision making. Material Fee as indicated in the Schedule of Classes (F)

**7420 Principles of Environmental Health. Cr. 3**

Required of all MPH students in the Quantitative Health Sciences and Public Health Practice concentrations. 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. (W)

**7440 (FPH 7440) Practicum in Public Health. Cr. 3**

Open only to MPH students. Required of all MPH students. Prereq: consent of advisor; completion of all other core course credits; students in the Quantitative Health Sciences and Public Health Practice concentrations must also have at least six concentration course credits. 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. (T)

**7510 Air Sampling and Analysis. Cr. 3**

Coreq: OEH 7010, 7060, or 7075. Classical methods of obtaining samples of the air; recent developments in portable direct reading devices; theory underlying the use of impingers, electrostatic and thermal precipitators, filtration media, and other sampling devices. Material Fee as indicated in the Schedule of Classes (B:F)

**7520 Optical Microscopy for Industrial Hygienists. Cr. 2**

Expanded study of the use of microscope for dust counting and sizing and for identification of industrial hygiene hazards; use of petrographic, stereo, and phase-contrast microscope. Material Fee as indicated in the Schedule of Classes (W)

**7600 Principles of Industrial Ventilation. Cr. 3**

Coreq: OEH 7010, 7060, or 7075. Principles of air movement; their application to design of industrial ventilation systems; air measuring devices, duct and hood design, dust collector performance, fan selection; typical industrial problems, including foundry and paint spraying operations. Material Fee as indicated in the Schedule of Classes (B:F)

**7610 Statistics and Risk Management in Occupational and Environmental Health Sciences. Cr. 3**

Coreq: OEH 7010, 7060, or 7075. Application of statistical methods to industrial hygiene and toxicological data. Data summaries applied to exercises in problem solving using risk assessment/management techniques. (F)

**7650 Chemistry of Industrial Processes. Cr. 2**

Prereq: OEH 7010, 7060, or 7075. Basic industrial chemistry needed to evaluate the human health-related impact of industrial processes. Types of fuels, expected by-products, and chemical hazards as a basis for industrial environment research. (W)

**7720 Industrial Hygiene Control Methods. Cr. 2**

Prereq: OEH 7010, 7060, or 7075. Control of the industrial environment to prevent occupational illness; use of respiratory protection, substitution procedures, protective clothing, shielding and isolation to control factors in the environment; laboratory and field visits. Material Fee as indicated in the Schedule of Classes (W)

**7820 Regulatory Affairs in Occupational and Environmental Health. Cr. 2**

History, scope, and application of federal and state laws and regulations concerning occupational safety and health, toxic substances in the environment, and related areas. Methods of compliance, penalties for non-compliance, and agencies of enforcement. (B:W)

**7840 Occupational Health Management. Cr. 2**

Prereq: OEH 7010, 7060, or 7075. Management aspects of occupational health: design, planning, and execution of an occupational health program, utilizing technical knowledge acquired from program courses. Preparation of a written program in area of industrial hygiene, toxicology, or general occupational health is required. (W)

**7860 Principles of Occupational Health. (FPH 7860) Cr. 3**

Prereq: graduate standing. 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. (W)

**7870 Periodical Literature in Occupational and Environmental Health. Cr. 1**

Journals, annals and other databases available to the specialist to follow progress of the field. Students receive assignments and present reports. (S)

**7990 Directed Study. Cr. 1-4**

Prereq: written consent of instructor and graduate officer prior to registration. Directed projects for students whose interests and needs are not adequately met in other scheduled classes. (I)

**7999 Master's Essay. Cr. 2-4**

Prereq: consent of advisor. (I)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (Max. 8)**

Prereq: consent of advisor. (I)

# Occupational Therapy

Office: Room 2226 CPHS: 313-577-5884  
Program Director: Doreen Head  
Graduate Coordinator: Regina Parnell  
Fieldwork Education Level II: Nancy Vandewiele-Milligan  
Department Secretary: Caterina Scheuler  
Website: <http://cphs.wayne.edu/ot/>

## Professors Emerita

Miriam C. Freeling, Suesetta McCree, Martha E. Schnebly

## Professor

Catherine L. Lysack

## Assistant Professors

Gerry Conti, Rosanne DiZazzo-Miller, Doreen Head, Regina Parnell, Nancy Vandewiele-Milligan, Preethy Samuel

## Part-Time Faculty

Kim Banfill, Donna Case, Bob Erlandson, Susan Koziatek, Tina Savich, Susanne Terry

## Cooperating Faculty

Merle Ekstrom, Mary Tracy-Bee, James Montante, Philip Pokorski

## Graduate Degree

*MASTER OF OCCUPATIONAL THERAPY*

*MASTER OF SCIENCE IN OCCUPATIONAL THERAPY<sup>1</sup>*

## Master of Occupational Therapy

The Master of Occupational Therapy (M.O.T.) program is the entry-level program for occupational therapy, and is endorsed by the American Occupational Therapy Association (AOTA) and the Accreditation Council for Occupational Therapy Education (ACOTE).

The goal of this entry-level program is to educate individuals to become occupational therapy health care professionals. It is designed as a five-year program. During the first two (undergraduate) years, students complete seventy-one to seventy-three liberal arts and science pre-professional credits. In the following (first professional) year, an additional fifty-six credits is completed, after which the student is awarded a Bachelor of Science in Health Sciences degree. In the final two professional years, students complete thirty-six credits, inclusive of fieldwork requirements (ACOTE Standards). Upon completion of the M.O.T. degree, students are eligible to sit for the national certification and examination procedures of the National Board of Certification in Occupational Therapy. A state License to practice is required after successful completion of the NBCOT certification examination.

**Accreditation:** The M.O.T. program at Wayne State University is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), the accrediting body of the American Occupational Therapy Association (AOTA). The courses prepare students to take the National Certification Examination (National Board for Certification in Occupational Therapy NBCOT; <http://www.nbcot.org>). For information, contact: American Occupational Therapy Association, Inc., 4720 Montgomery Lane, Bethesda MD 20814-3425; telephone: 301-652-2682; Fax: 301-652-7711; Website: <http://www.aota.org>

1. There is currently an admissions moratorium in effect for this program.

**Admission to Preprofessional Study:** Admission to the preprofessional program is contingent upon undergraduate admission to the University. (Consult the Occupational Therapy Program and the Wayne State University Undergraduate Bulletin.) In the preprofessional program, students complete two years of course work, including the University undergraduate General Education Requirements and the prerequisite courses for the Occupational Therapy Core. The General Education Requirements and prerequisite courses may also be completed at other universities, however this must be done prior to the last thirty credits of the M.O.T. degree completion.

**Undergraduate Preparation:** For up-to-date descriptions of preprofessional and undergraduate-level professional requirements, contact the CPHS Office of Student Affairs and Alumni Affairs at (313-577-1716) or visit the departmental website at [http://cphs.wayne.edu/pdf/ot\\_2011\\_pub.pdf](http://cphs.wayne.edu/pdf/ot_2011_pub.pdf); and consult the current Undergraduate Bulletin.

**Professional Program Admission:** Applicants must apply for admission to the professional program and be formally admitted. All applicants must hold a minimum grade point average of 3.0 or above for the preprofessional program. All prerequisite courses must be completed with grades of 'C' or better. No more than two professional core prerequisite courses may be repeated to improve grades. In addition, the applicant must: a) complete twenty hours of contact with a registered occupational therapist and provide documentation of this; b) complete a Program Personal/Professional Statement; c) submit a letter of recommendation from a current or former supervisor. Students who have no work experience may seek a recommendation from an instructor of one of the Occupational Therapy Core Courses.

Each student is assigned a faculty advisor upon admission to the M.O.T. program. After completion of the undergraduate and graduate coursework, each student will be assigned a Level II Fieldwork Coordinator faculty advisor, to counsel the student for the remainder of the program.

**Admission:** Applicants must meet the admission standards of the Graduate School; for requirements, see page 18. Please contact the Occupational Therapy Program for further information.

**DEGREE REQUIREMENTS:** The M.O.T. program consists of a minimum of 162-164 credits in course work including the pre-professional program, professional courses and fieldwork. All course work requirements must be completed before a student can qualify for fieldwork. All course work must be completed in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees; see the section of this bulletin beginning on page 32.

## *M.O.T. Professional Graduate Program<sup>2</sup>*

### Semester One (Winter)

O T 5040 -- Environmental Influence on Disability & Health: Cr. 3  
O T 6000 -- Interventns. & Outcoms. II (FWI School Jan.-Apr.): Cr. 5  
O T 6230 -- Motor Control: Cr. 3  
O T 7120 -- Topics in Assistive Technology: Cr. 3  
Elective I: Cr. 3

### Semester Two (Spring)

O T 7200 -- Program Administration and Entrepreneurship: Cr. 3  
Elective II: Cr. 3

### Semester Three (Fall)

O T 7898 -- Level II Fieldwork A: Medical (with seminar): Cr. 8  
Traditional Medical Model Fieldwork Assignment: Cr. 8

### Semester Four (Fall or Winter)

2. The first three years of the M.O.T. program, including the first year of this Professional Program, are taken at the undergraduate level. For information, consult the Undergraduate Bulletin and contact the CPHS Student Affairs and Enrollment Management office.

O T 7899 -- Level II Fieldwork B: Community (with seminar): Cr. 8  
Community Model Fieldwork Assignment: Cr. 8

### Electives

O T 6090 -- Directed Research: Cr. 1-4  
O T 7500 -- Specialist Roles in O T: Cr. 3  
O T 7990 -- Directed Study: Cr. 1-3 (Max. 5)

## Student Manual

A student manual, provided by this Program, contains policy statements that may pertain to admission, candidacy, and degree requirements. Students should be sure to consult this manual for the current statements on these policies.

## Financial Aid

Sources of financial aid for graduate students are enumerated in the section on Graduate Financial Assistance beginning on page 26 of this bulletin. In addition, a teaching assistantship may be available to a qualified student. Inquiries should be directed to the program director.

## GRADUATE COURSES (O T)

The following courses, numbered 6000-9999, are offered for graduate credit. Courses in the following list numbered 6000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5000 Occupational Therapy Assessment and Intervention: Neuro I. Cr. 5**

Prereq: admission to OT program. 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. (F)

### **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. (F)

### **5050 Life Occupations II. Cr. 3**

Prereq: O T 4050. Open only to Pharmacy and Health Sciences students. 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. (S)

### **5200 (P T 5200) Human Anatomy for Health Sciences. Cr. 4**

Prereq: admission to Physical Therapy or Occupational Therapy professional program, or consent of instructor; coreq: P T 5210 or O T 5210. Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. (F)

### **5210 (P T 5210) Human Anatomy for Health Sciences: Laboratory. Cr. 1-2**

Prereq: admission to professional OT program or consent of instructor; coreq: O T 5200 or P T 5200. Examination of dissections, dissection of human cadavers; didactic study. Material Fee as indicated in the Schedule of Classes (F)

### **5400 Neuroanatomy and Neurophysiology for Health Sciences. (P T 5400) Cr. 3**

Prereq: O T 5200. Open only to students admitted to EACPHS professional program. Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Material Fee as indicated in the Schedule of Classes (W)

### **5650 (R T 5650) Pathophysiology for Health Sciences. (P T 5650) Cr. 3**

Prereq: admission to professional Occupational Therapy program, or consent of instructor; O T 5200. Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. (W)

### **6000 Interventions and Outcomes II. Cr. 5**

Prereq: O T 5000. 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. (Y)

### **6070 Occupational Therapy Research II. Cr. 3**

Prereq: O T 3070. Application of research principles and methods to solving occupational therapy problems. (F)

### **6090 Directed Research. Cr. 1-4 (Max. 8)**

Prereq: O T 6070 or equiv., and consent of instructor. Opportunity to conduct supervised research and to participate in research activities of a mentor. (T)

### **6230 Motor Control. Cr. 3**

Prereq: O T 5200, O T 5400, O T 7300; or consent of instructor. Current theories of motor control and motor learning; recovery of function and normal movement across the lifespan. (W)

### **6320 (PPR 6300) Patient Perspectives of Health, Illness and Culture. (P T 6320) Cr. 2**

Prereq: enrollment in Pharmacy and Health Care Sciences college or other health care program. 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. (S)

### **7120 Topics in Assistive Technology. Cr. 3**

Prereq: graduate standing or consent of instructor. Theories of assistive technology; their application in health care and community settings. (S)

### **7200 Program Administration and Entrepreneurship. Cr. 3**

Open only to O T students. Development, management and administration of established and emergency occupational therapy programs; exploration of career development. (F)

### **7240 Rehabilitation Neuroscience. Cr. 3**

Prereq: EER 7630; OT 7300; or consent of instructor. Behavioral neuroscience principles underlying common neurorehabilitation interventions. (S)

### **7300 Professional Literature. (CLS 7300) Cr. 3**

Prereq: consent of instructor. Analysis and appraisal of current occupational therapy and related professional literature. Overall approach to research reporting. (F)

### **7500 Specialist Roles in Occupational Therapy. Cr. 3 (Max. 9)**

Prereq: consent of instructor. Issues of the occupational therapy specialist. (I)

### **7700 Research Dissemination. Cr. 3**

Prereq: O T 7070. Research methodology and scientific writing; publication guidelines, oral and poster presentations. (W)

**7750 Professional Field Experience. Cr. 1-4**

Prereq. or coreq: consent of advisor. Offered for S and U grades only. Supervised placement in area of specialization. (T)

**7898 Level II Fieldwork A: Medical. Cr. 8**

Offered for S and U grades only. Prereq: completion of all professional curriculum course work. Supervised field work experience in affiliated health care agencies. (T)

**7899 Level II Fieldwork B: Community. Cr. 8**

Offered for S and U grades only. Prereq: completion of all professional curriculum course work. Supervised field work experience in affiliated health care agencies. (T)

**7990 Directed Study. Cr. 1-3 (Max. 5)**

Prereq: consent of instructor. Opportunities for study and experience in areas of special interest in occupational therapy. Written report and oral presentation required. (T)

**7999 Master's Essay Direction. Cr. 1-2 (2 req.)**

Prereq: O T 7700 and consent of advisor. (T)

**8990 Master's Project Direction. Cr. 1-5 (5 req.)**

Prereq: O T 7700 and consent of advisor. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)**

Prereq: O T 7700 and consent of advisor. (T)



# Pharmaceutical Sciences

Office: 3610 CPHS; 313-577-1047

Chairperson: George B. Corcoran

Website: <http://www.cphs.wayne.edu/psc/index.php>

## Professors

Hanley N. Abramson, Martin Barr (Emeritus), Deepak K. Bhalla, George B. Corcoran, Raymond J. Dauphinais (Emeritus), Aloke K. Dutta, Fusao Hirata, Anjaneyulu Kowluru, Robert T. Louis-Ferdinand, Janardan B. Nagwekar (Emeritus), Paul M. Stemmer, Henry C. Wormser

## Adjunct Professors

Jacob V. Aranda, David J.P. Bassett, Michael R. Bleavins, Robert A. Levine

## Associate Professors

Fei Chen, Randall L. Commissaris, Steven M. Firestine, David Oupicky, David K. Pitts, Duska M. Separovic (Research), Zhengping Yi

## Adjunct Associate Professors

Merlin E. Ekstrom, Peter D. Frade, Edward J. Kerfoot, Ladislau C. Kovari, Howard J. Normile, Allen J. Rosenspire, Timothy L. Stemmler, William D. Watt

## Assistant Professors

Olivia M. Merkel, Anna B. Moszczynska, Philip L. Pokorski (Clinical), Joshua J. Reineke

## Adjunct Assistant Professors

Hossam M. Ashour, Amit Banerjee, Bradford R. Hepler, Daniel S. Isenschmid, Jing Li, Bonita G. Taffe, Hani Zaher

## Adjunct Instructor

Aiko Hirata

## Graduate Degrees

*MASTER OF SCIENCE with a major in Pharmaceutical Sciences and specializations in Medicinal Chemistry, Pharmaceutics, and Pharmacology/Toxicology*

*DOCTOR OF PHILOSOPHY with a major in Pharmaceutical Sciences and specializations in Medicinal Chemistry, Pharmaceutics, and Pharmacology/Toxicology*

The pharmaceutical sciences encompass the traditional disciplines of medicinal or pharmaceutical chemistry, pharmaceutics and pharmacology/toxicology. While an undergraduate pharmacy degree is desirable, applicants with a strong background in the behavioral, biological and/or physical sciences are excellent candidates for graduate work in this department. Because of the complementary nature and interrelationships among these disciplines, the emphasis is on an interdisciplinary approach and the curriculum involves a single major with specializations rather than separate majors. This also leads to greater flexibility in designing individualized programs geared to the applicant's preparation and interests.

The specialty in medicinal chemistry is primarily devoted to the discovery and development of new compounds which may be of value in the diagnosis and treatment of disease. Included are applications of organic chemistry, natural product chemistry, biochemistry, phar-

macology and the relationships among chemical structure, physical properties and biological activity.

Pharmaceutics is concerned with the conception, design, production, characterization, and evaluation of drug delivery systems *in vitro* and *in vivo*. Pharmaceutics includes physical, chemical, biological, micro-biological and engineering studies related to the design of drug delivery systems.

Pharmacology/toxicology deals with the principles and mechanisms of drug action on biological systems and the toxicological aspects of drugs and other substances.

## Master of Science with a Major in Pharmaceutical Sciences

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. For the master's degree program, with a major in pharmaceutical sciences, the following criteria must also be satisfied:

The General portion of the Graduate Record Examination is required of all applicants.

Applicants whose native language is other than English must demonstrate proficiency in English prior to beginning the program (see page 20).

In addition to the regular University application, the applicant must also submit the following:

1. A general statement (300-400 words, typewritten) of reasons for selecting the program, including a resume, career objectives and possible research interests.
2. Three letters of recommendation.

If an applicant's undergraduate preparation is considered deficient for advanced work in the pharmaceutical sciences, additional work may be required at the undergraduate level. All prerequisite credits must be earned prior to or concurrent with the first graduate credits.

Application materials may be obtained by contacting the Graduate Officer, Department of Pharmaceutical Sciences, Eugene Applebaum College of Pharmacy and Health Sciences, Wayne State University, Detroit, Michigan 48202 or may be downloaded from the department website: <http://www.cphs.wayne.edu/psc/graduate-programs.php>

**DEGREE REQUIREMENTS:** The Master of Science with a major in Pharmaceutical Sciences is offered only as a Plan A master's program requiring thirty credits, including an eight-credit thesis. All course work must be completed in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees; see the section of this bulletin beginning on page 32.

Courses required will vary with the student's previous preparation and the area of specialization. These courses will be determined by the student's graduate advisor, with review and approval by the College Graduate Officer by means of the Plan of Work. In addition to individualized courses, all Master of Science students are required to complete five core interdisciplinary courses: PSC 6800, PSC 7010, PSC 7020, PSC 7040 and one advanced course in the area of specialization: PSC 7700, PSC 7710, or PSC 7720. All students in the Graduate Program are required to attend the weekly Departmental Seminars. Each Master's degree student must present one regular Departmental seminar and each doctoral student must present a minimum of two regular Departmental seminars. In addition, all graduate students will register for one credit of seminar, PSC 7850, in the Spring/Summer semester of their first year and provide a seminar of thirty minutes in length describing a research experience during their first year. After the first academic year, all students will register each winter semester for one credit of PSC 7860. Doctoral students should schedule their first regular Departmental seminar during the Winter semester following the successful completion of their Qualifying

Examinations. The first seminar shall be on a topic not directly related to the student's dissertation work. The topic will be selected by the student in concert with his/her research advisor and must be approved by that semester's seminar coordinator not less than two weeks prior to the scheduled seminar. Furthermore, the student must make available to the Department a two-page outline or summary of the seminar, including pertinent references. The outline/summary must be approved by the semester's seminar coordinator, who will deliver it to the Department faculty, students, and staff by e-mail not less than one week prior to the seminar. Failure to comply with this requirement shall result in a lowering of the student's seminar grade by one full mark.

To qualify for the degree, all courses specified on the *Plan of Work* must be satisfactorily completed with a cumulative grade point average of at least 3.0. In addition, a final oral examination covering course work and the thesis is required of all candidates.

After successful completion of the oral examination, an original and two unbound copies of the approved thesis must be delivered to the Graduate School Office (4300 Faculty/Administration Building) for binding. A copy of the binding receipt must be provided to the College Graduate Officer before the degree can be certified.

**Selection of Advisor:** A faculty member designated by the Graduate Officer will serve as temporary advisor to the applicant during the first semester. During this semester, the applicant is encouraged to meet with all graduate faculty in the specialty, discuss their research interests, choose an advisor and obtain his/her consent to direct the student's research. This advisor will then sign the student's program requests, *Plan of Work* and other necessary forms.

**Candidacy:** Applicants apply to the College Graduate Officer (1600 CPHS) to become degree candidates by filing a *Plan of Work*, approved by their advisor, prior to the completion of twelve graduate credits in the program. To qualify, applicants must exhibit satisfactory scholarship (graduate grade point average of 3.0 or above), have completed any prerequisite and/or corequisite courses specified at the time of admission and have regular admission status. Applicants who have not been advanced to candidacy by the time twelve graduate credits have been completed may be denied further registration in the program.

**Academic Progress:** At the conclusion of the Fall and Winter semesters, progress of every student in the program will be reviewed by the departmental Curriculum Sub-Committee. Each student is evaluated in terms of performance in course work, research progress, fulfillment of University requirements for filing a *Plan of Work*, thesis of dissertation outline, etc., and overall professional development. The evaluation at the conclusion of the winter semester includes a written assessment by the faculty advisor of the student's strengths and weaknesses, as well as an indication of how any deficiencies will be addressed.

A student will be placed on probation for any of the following reasons;

1. Qualified admission status at the time of matriculation;
2. Receipt of a grade lower than 'B' in any course;
3. Notification from the advisor that the student is not making adequate progress in his/her research.

The student will be informed in writing, at the time of being placed on probation, of the requirements for removal from probationary status.

A student may be excluded from the program for the following reasons:

1. Failure to comply with requirements set by the Departmental committee;
2. Receipt of two or more grades below 'B' in any single semester;
3. Unauthorized leave of absence.



**Leave of Absence:** A leave of absence is defined as an absence from the graduate program for one or more semesters and is only permitted for extenuating personal or medical reasons. Students who are granted a leave of absence may be required to do remedial work, depending on the length of absence from the program.

Students who have not registered for two or more consecutive semesters will be placed on inactive status and must obtain the permission of the Department Curriculum Sub-Committee and the College Graduate Officer before registering again.

## Doctor of Philosophy with a Major in Pharmaceutical Sciences

**Admission:** In addition to the requirements of the Graduate School (see page 18), the applicant should present a bachelor's or master's degree with a major in one of the behavioral, biological, pharmaceutical or physical sciences.

The General portion of the Graduate Record Examination is required of all applicants.

Applicants whose native language is other than English must demonstrate proficiency in English prior to beginning the program (see page 20).

In addition to the regular University application, the applicant must also submit the following.

1. A general statement (300-400 words, typewritten) of reasons for selecting the program, including a resume, career objectives and possible research interests.

2. Three letters of recommendation.

Application materials may be obtained by contacting the Graduate Officer, Department of Pharmaceutical Sciences, Eugene Applebaum College of Pharmacy and Health Sciences, Wayne State University, Detroit, Michigan 48202.

**DEGREE REQUIREMENTS:** Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate degree, in compliance with the academic procedures of the Graduate School; see page 37. This includes the successful completion of three core interdisciplinary courses: PSC 6800, 7010, and 7020. The thirty-credit dissertation registration requirement is fulfilled by registering for the courses PSC 9991, 9992, 9993, and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The only exception to those regulations is the waiver of the foreign language requirement for doctoral students in the pharmaceutical sciences.

**Selection of Advisor:** See above, under Master of Science Program.

**Candidacy:** See the requirements of the Graduate School, page 39.

**Seminar Presentation:** See above, under Master of Science Program.

**Academic Progress:** See above, under Master of Science Program.

**Leave of Absence:** See above, under Master of Science Program.

## Student Manual

A student manual, provided by the Department, contains policy statements that may pertain to admission, candidacy, and degree requirements. Students should be sure to consult this manual for the current statements on these policies.

## Financial Aid

General sources of financial aid for graduate students are listed in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin. In addition, there are a limited number of teaching and research assistantships available to qualified students. Inquiries

should be directed to the Graduate Officer, Department of Pharmaceutical Sciences. The following scholarship is open to pharmaceutical sciences students:

**Frank O. Taylor Pharmacy Graduate Scholarship:** An award of \$1,000 is given to a Department of Pharmaceutical Sciences graduate student with an interest in pursuing a career in industrial pharmacy and who, in the opinion of the faculty, excels in both research productivity and didactic courses. The student must have completed three semesters, twenty credits of graduate level courses and Advance Drug Action and Safety I (PSC 7010). A minimum 3.6 g.p.a. (on a four-point scale) is required (excluding thesis research credits). The student's research performance must be in the top ten percent of students based on annual evaluation by his/her thesis advisor.

## PROFESSIONAL COURSES

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

## PHARMACY COURSE (PHA)

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: consent of dissertation advisor; completion of 30 credits in PHA 9991-9994. Offered for S and U grades only. (T)

## PHARMACEUTICAL SCIENCES COURSES (PSC)

**5600 Drugs of Abuse. Cr. 3-4**

Prereq: third professional year standing. 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. (Y)

**5870 Seminar in Pharmacology. Cr. 1 (Max. 2)**

Prereq: consent of instructor. Open to undergraduates in good academic standing. Reports and discussions on current literature and recent advances in the field. Assigned topics presented by students. (T)

**5990 Directed Study in Medicinal Chemistry. Cr. 2**

Prereq: consent of instructor. No pharmacy program credit after completion of two credits of PSC 5991, PSC 5992, PPR 5990, except by consent of department chair. (T)

**5991 Directed Study in Pharmaceutics. Cr. 2**

Prereq: consent of instructor. No pharmacy program credit after completion of two credits of PSC 5990, PSC 5992, PPR 5990, except by consent of department chair. (T)

**5992 Directed Study in Pharmacology. Cr. 2**

Prereq: consent of instructor. No pharmacy program credit after completion of two credits of PSC 5990, PSC 5991, PPR 5990, except by consent of department chair. (T)

**6000 Fundamentals of Drug Design. Cr. 2**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. Discussion of practical applications and theoretical consideration in the design of new drug molecules. Topics include quantitative structure-activity relationships, metabolic antagonism, enzyme inhibition, and pro-drugs. (Y)

**6800 Introduction to Research. Cr. 2**

Prereq: last professional year, graduate, or graduate professional standing. Fundamental concepts and resources for responsible conduct of biomedical research and advancing scientific professional development, and data analysis and statistics. (Y)

**6890 Toxicology and Adverse Drug Reactions. Cr. 3**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. Study of toxicology and adverse drug reactions including metabolism, hypersensitivity, carcinogenicity, drug-drug interactions, and other factors hazardous to human health. (Y)

**7010 Advanced Drug Action and Safety I. Cr. 2-3**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. Survey of advanced research topics in pharmacology. (B:F)

**7020 Advanced Drug Discovery I. Cr. 2-3 (Max. 6)**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. Survey of advanced research topics in medicinal chemistry. (B:F)

**7040 Advanced Drug Formulation and Delivery I. Cr. 2-3**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. No credit after PPR 4230. Survey of advanced research topics in pharmaceuticals. (B:W)

**7120 Advanced Pharmacology I. Cr. 2**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. Study of the theories of drug action; cellular pharmacology. (I)

**7160 Advanced Practice Basic Pharmaceutical Sciences Elective. Cr. 3-6 (Max. 6)**

Prereq: admission to Pharm.D. program. Eight-week rotation in basic science-oriented research laboratory. (I)

**7600 Drugs of Abuse: Advanced. Cr. 2**

Prereq: prior course in pharmacology and good academic standing. 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. (Y)

**7700 Advanced Drug Action and Safety II. Cr. 2**

Prereq: PSC 7010, last professional year, graduate, or graduate professional standing; consent of instructor. Continuing survey of modern research topics in pharmacology. (B:W)

**7710 Advanced Drug Discovery II. Cr. 2**

Prereq: PSC 7020, last professional year, graduate, or graduate professional standing; consent of instructor. Continuing survey of advanced research topics in medicinal chemistry. (B:W)

**7720 Advanced Drug Formulation and Delivery II. Cr. 2**

Prereq: last professional year, graduate, or graduate professional standing; consent of instructor. Second course in survey of advanced research topics in pharmaceuticals. (B:W)

**7800 Research Techniques in Medicinal Chemistry. Cr. 1-4 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: consent of instructor. Laboratory work employing modern techniques available in medicinal chemistry; application of basic principles to graduate study and research. (T)

**7810 Research Techniques in Pharmaceutics. Cr. 1-4 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: consent of instructor. Laboratory work employing modern techniques available in pharmaceutics: application of basic principles to graduate study and research. (T)

**7820 Research Techniques in Pharmacology. Cr. 1-4 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: consent of instructor. Laboratory work employing some of the modern techniques available in pharmacology, including the application of basic principles to graduate study and research. (T)

**7840 Seminar in Basic Pharmaceutical Sciences. Cr. 1-3**

Prereq: graduate standing or admission to Pharm.D. program. Basic science seminar for doctor of pharmacy students or graduate students. (I)

**7850 Introductory Student Seminar. Cr. 1**

Prereq: consent of instructor. Presentation and discussion of seminars on current research projects by first year Ph.D. students. (T)

**7860 Seminar in Pharmaceutical Sciences. Cr. 1 (Max. 4)**

Prereq: consent of instructor. Presentations by graduate faculty, students, and invited lecturers on current developments in pharmaceutical sciences. (T)

**7999 Master's Essay Direction. Cr. 2 (2 req., max. 2)**

Prereq: consent of instructor. (T)

**8650 Special Topics in Medicinal Chemistry. Cr. 2 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: consent of instructor. Recent developments in medicinal chemistry. Topics under investigation and of current interest offered in different semesters. (T)

**8660 Special Topics in Pharmaceutics. Cr. 2 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: consent of instructor. Recent developments in pharmaceutics. Topics under investigation and of current interest offered in different semesters. (T)

**8670 Special Topics in Pharmacology. Cr. 2 (Max. 6, M.S.; max. 12, Ph.D.)**

Prereq: consent of instructor. Recent developments in pharmacology. Topics under investigation and of current interest offered in different semesters. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req., max. 8)**

Prereq: consent of instructor. (T)

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of department and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in department and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSC 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSC 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSC 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSC 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: PSC 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following PSC 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in PSC 9991- PSC 9994. Offered for S and U grades only.



# Pharmacy Practice

Office: 2152 CPHS; 313-577-0824

Interim Chairperson: Denise Rhoney

Website: <http://www.cphs.wayne.edu/practice/index.php>

## Professors

Linda Jaber, Pramodini Kale-Pradhan, Richard Lucarotti, Douglas A. Miller, Michael J. Rybak, Richard L. Slaughter, Maureen Smythe, Jesse C. Vivian, Lloyd Young

## Associate Professors

Hossam Ashour, David Bach, Susan L. Davis, Candace Garwood, Christopher Giuliano, Paul Kilgore, Victoria T. Lehr, Paul Munzenberger, Mary Beth O'Connell, Dennis Parker, Thomas Taylor

## Assistant Professors

Helen Berlie, Carol Bugdalski-Stutrud, Raymond Cha, Sara Dadayan, Justine Gortney, Kathryn Hurren, Lynette Moser, Carrie Nemerovski, Nicole Pinelli, Francine Salinitri, Paul Schiavi, Sheila Wilhelm

## Graduate Degree

*DOCTOR OF PHARMACY*

## The Profession of Pharmacy

Expanded opportunities for pharmacists in patient-care roles and therapeutic decision-making have evolved during the past three decades. The traditional role in drug distribution has increasingly expanded to incorporate the concept of pharmaceutical care, a philosophy which gives pharmacists the responsibility for assuring drug therapy that achieves defined outcomes and improves a patient's quality of life. Pharmacists in contemporary practice are trained and expected to work collaboratively with the patient and the patient's other health care providers to assure that drug therapy is safe and effective.

The ability of the pharmacist to play an active role in drug therapy is recognized at both the state and national levels. In recent years, several states have passed, or are considering, legislation that allows pharmacists to initiate or modify drug therapy, through collaboration with a physician or through independent authority. In Michigan, pharmacists may prescribe under the delegated authority of a licensed physician.

The profession of pharmacy continues to progress from a drug-product orientation to a more patient-focused practice. In addition, employers in managed care, long-term care, and primary care are demanding that pharmacy professionals be prepared with increasingly higher levels of education. This has mandated that an additional year of training be required to ensure that pharmacy students acquire both a foundation in the basic sciences as well as knowledge of patient assessment, communication, and pharmacotherapy. Consequently, the Doctor of Pharmacy degree at Wayne State University is a four-year professional curriculum following the completion of a minimum of two years of preprofessional courses.

## Doctor of Pharmacy (Pharm.D.)

The College offers to qualified applicants a professional program leading to the Doctor of Pharmacy (Pharm.D.). The Doctor of Pharmacy program develops a highly qualified expert in pharmacotherapy who is prepared to provide professional leadership in the practice of pharmacy.

**Admission:** Students are admitted to the Doctor of Pharmacy program for the fall semester only. Enrollment is limited to applicants

who have met the general requirements for admission to the University by the stipulated deadline and present evidence of professional admissibility and promise of academic and professional competence in pharmacy.

The applicant must have completed (or be pursuing completion of) fifty credits in preprofessional core courses at the undergraduate level, with a grade point average of 3.0 or better, plus any credits required to demonstrate competency in computer literacy, critical thinking, and oral communication to a minimum total of sixty-eight credits.

For complete information on admission, and preprofessional and professional undergraduate program requirements, consult the Wayne State University Undergraduate Bulletin.

**Application:** Deadline for submission of all application materials is December 1. Applications are available through the Pharmacy College Application Service (PharmCAS) at <http://www.pharmCAS.org>. A competitive score on the Pharmacy College Admissions Test (PCAT) is also required. Only candidates who have completed all prerequisites by the end of the winter term preceding the fall term of prospective admission, are considered for admission.

**Admission** to the Doctor of Pharmacy program is competitive and the following criteria are used to evaluate applications from prospective students. Admissions decisions are made by the Admissions Committee. The committee evaluates all factors, including interview evaluation. Admission granted to students while they are in the pre-professional program will be contingent upon their completion of that program with grade point averages as indicated below.

1. Minimum core grade point average of 3.0 (on a four-point system), calculated on the final grades earned in the required preprofessional courses. Completion of prerequisites with minimum grades does not guarantee admission.
2. Minimum undergraduate grade point average of 3.0 (on a four point system).
3. Promise of success in a professional curriculum. Transcripts are evaluated for evidence of continued success in a full-time, science-based curriculum. Patterns of course repetition and excessive withdrawals are considered. It is recommended that applicants repeat not more than two mathematics and science courses in order to improve grades.
4. All applicants must take the Pharmacy College Admissions Test (PCAT). The PCAT must be taken prior to the application deadline of December 1. Applicants must have a minimum composite PCAT percentile score of 50. Scores on the individual components of the PCAT examination will be reviewed by the Admissions Committee.
5. All applicants must complete the Wayne State University English Proficiency Requirement during the winter semester prior to fall admission. Applicants not enrolled at Wayne State University may arrange for out-state testing to satisfy this requirement at their present educational institution; for information, call the Testing and Evaluation Office: 313-577-3400.
6. Applicants whose first language is not English must pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 550.
7. A personal interview is required.
8. Nonacademic factors including work experience, community service and leadership abilities will be evaluated.
9. A criminal background check is performed on all accepted applicants and is evaluated prior to an applicant matriculating into the program.

**Post-Bachelor Admission** permits registration in undergraduate courses, subject to the approval of the Dean or the Dean's designee and in compliance with University policy (see page 20). Post-bache-

lor status is an undergraduate classification and course credits earned in it may not be converted to graduate credit.

**Post-Degree Students:** Students with a baccalaureate degree from this College or another accredited college of pharmacy may be admitted as post-degree students. This permits registration in pharmacy courses subject to the approval of the Dean or Dean's designee. Post-degree status is an undergraduate classification and course credits earned in it may not be converted to graduate credit.

## Degree Requirements

The Doctor of Pharmacy requires a minimum of 120 credits in the professional program. All course work must be done in compliance with the academic procedures of the University and the College; see the sections of this bulletin beginning on pages 18 and 496, and the Wayne State University Undergraduate Bulletin.

A student must complete all curriculum and program requirements, remove any marks of 'I' or 'Y', and be recommended for the degree. The student must complete the required minimum number of credits, elect courses in the proper sequence in the curriculum shown below, and meet all course prerequisites and corequisites, unless excused from doing so by the Dean.

A graduate of the following four-year professional curriculum earns a Doctor of Pharmacy (Pharm.D.) and is eligible for the NAPLEX exam leading to licensure as a pharmacist.

### PHARM.D. PROFESSIONAL CURRICULUM

#### FIRST PROFESSIONAL YEAR (P-1)

##### Fall Semester

PHA 3150 -- Pathophysiology I: Cr. 2  
PHA 3030 -- Pharmacy Calc. and Descriptive Biostatistics: Cr. 1  
PSC 3110 -- Pharmaceutical Biochemistry: Cr. 3  
PSC 3120 -- Dosage Form Design and Biopharmaceutics: Cr. 4  
PPR 3020 -- Introduction to Patient Care I: Cr. 2  
PPR 3040 -- Patient Care Lab I: Cr. 1

Total credits: 13

##### Winter Semester

PHA 3250 -- Pathophysiology II: Cr. 3  
PSC 3210 -- Biotechnology in Therapeutics: Cr. 2  
PHA 3040 -- Medical Informatics: Cr. 2  
PPR 3060 -- Introduction to Patient Care II: Cr. 2  
PPR 3070 -- Patient Care Lab II: Cr. 1  
PPR 3120 -- Pharmacy Jurisprudence: Cr. 2

Total credits: 12

##### Spring Semester

PSC 3310 -- Principles of Drug Disposition: Cr. 3  
PPR 3130 -- Introductory Pharmacy Practice Experience I: Cr. 1

Total credits: 4

#### SECOND PROFESSIONAL YEAR (P-2)

##### Fall Semester

###### First Seven-week Block

PSC 4320 -- Principles of Drug Action: Cr. 3  
PHA 4010 -- Principles of Pharmacotherapy I: Cr. 3

###### Second Seven-week Block

PHA 4110 -- Principles of Pharmacotherapy II: Cr. 4

##### Courses Taken Throughout Semester

PPR 4120 -- Patient Care Lab III: Cr. 1  
PPR 4130 -- Intro. to Pharmacy Practice Experience II: Cr. 1  
PPR 4190 -- Health Care I: Delivery and Finance: Cr. 3

Total credits: 15

## Winter Semester

### First Seven-week Block

PHA 4210-- Principles of Pharmacotherapy III: Cr. 5

### Second Seven-week Block

PHA 4260 -- Principles of Pharmacotherapy IV: Cr. 5

### Courses Taken Throughout Semester

PPR 4220 -- Patient Care Laboratory IV: Cr. 1

PPR 4230 -- Intro. to Pharmacy Practice Experience III: Cr. 1

PPR 4290 -- Health Care II: Professional Pract. and Dvlpt.: Cr. 2

Total credits: 14

Total Year Credits: 29

Accumulated Credits for the Program: 58

## THIRD PROFESSIONAL YEAR (P-3)

PPR 5135 and 5235 are offered in both Fall and Winter terms; students will be assigned to one of these courses in the Fall and the other in the Winter. PPR 7840 and PSC 7840 are offered in both Fall or Winter terms in P3 and P4 years; students will be assigned to take one of these courses in P3 year and the other in P4 year.

## Fall Semester

### First Seven-week Block

PHA 5155 -- Principles of Pharmacotherapy V: Cr. 5

### Second Seven-week Block

PHA 5165 -- Principles of Pharmacotherapy VI: Cr. 5

### Courses Taken Throughout Semester

PPR 5135 or PPR 5235

-- Hospital Practice Introductory Experience: Cr. 2

-- Community Practice Introductory Experience: Cr. 2

PPR 6180 -- (WI) Adv. Ethics and Profnl. Responsibility: Cr. 2

PPR 7840 or PSC 7840

-- Seminar in Clinical Pharmacy: Cr. 1

-- Seminar in Basic Pharmacy Science: Cr. 1

Professional Electives: Cr. 2

Total credits: 17

## Winter Semester

### First Seven-week Block

PHA 5270 -- Principles of Pharmacotherapy VII: Cr. 5

### Second Seven-week Block

PHA 5280 -- Principles of Pharmacotherapy VIII: Cr. 3

### Courses Taken Throughout Semester

PPR 5135 or PPR 5235

-- Hospital Practice Introductory Experience: Cr. 2

-- Community Practice Introductory Experience: Cr. 1

PPR 6290 -- Population-based Medication Management: Cr. 2

PPR 7670 -- Clinical Pharmacokinetics: Cr. 2

PPR 7840 or PSC 7840

-- Seminar in Clinical Pharmacy: Cr. 1

-- Seminar in Basic Pharmaceutical Sciences: Cr. 1

Total credits: 16

## FOURTH PROFESSIONAL YEAR (P-4)

Students are required to complete seven advanced practice rotations during the P-4 year. PPR 7840 and PSC 7840 are offered in both Fall or Winter terms in P3 and P4 years. Students will be assigned to take one of these courses in P3 year and the other in P4 year.

## Spring/Summer, Fall, and Winter Semesters

PPR 7410 -- Adv. Pharm. Pract.: Inpatient Acute Care: Cr. 4

PPR 7420 -- Adv. Pharm. Pract.: Ambulatory Care: Cr. 4

PPR 7430 -- Adv. Pharm. Pract.: Patient Care Core: Cr. 4

PPR 7530 -- Adv. Practice Patient Care Elective I: Cr. 3 (Max. 12)

PPR 7540 -- Adv. Practice Non-Patient Care Elective: Cr. 3 (Max. 6)

PPR 7550 -- Adv. Pharm. Practice General Hospital: Cr. 4

PPR 7560 -- Adv. Pharm. Practice General Community: Cr. 4

PPR 7840 or PSC 7840

-- Seminar in Clinical Pharmacy: Cr. 1

-- Seminar in Basic Pharmaceutical Sciences: Cr. 1-3

PSC 7160 -- Adv. Practice Basic Pharmaceutical Sciences Elective: Cr. 4

Total credits for year: 29

Accumulated Credits for the Program: 120

## PHARM.D. PRACTICE EXPERIENCES

To provide the pharmacy student with education in the application of knowledge he/she has gained in courses in the curriculum, pharmacy practice experiences are scheduled throughout the Pharm.D. program. Pharmacy practice experiences give the student the opportunity to apply his/her pharmaceutical education directly to patients in a variety of pharmacy settings: community, ambulatory, and institutional locations. Practice experiences are required of all students.

During the fourth professional year (P-4), required pharmacy practice experiences include General Community Practice, General Hospital Practice, Ambulatory Care, and Inpatient/Acute Care General Medicine. An additional experience involving patient care is also required. Students have two elective experiences which may be in patient care or non-patient care settings, such as pharmaceutical sciences or pharmacy practice research, managed care, pharmacy organization, institutional or community management, or pharmaceutical management.

**Requirements:** Before students are scheduled to visit practice environments, they must provide health clearance documentation, proof of professional liability insurance, personal medical insurance, and Basic Cardiac Life Support certification; and sign a travel waiver. Students provide their own transportation to practice sites. A criminal background check may also be required by a practice site before a student can visit that site. Additional information on practice experience requirements and when they are required may be obtained from the College. These change regularly. The most recent requirements can be found at <http://www.cphs.wayne.edu/pharmd/resources.php>.

## Pharmacist Licensure

The graduate of the four-year Pharm.D. curriculum earns the degree Doctor of Pharmacy and is eligible for the NAPLEX examination to obtain licensure as a pharmacist. Licensure, either by examination or reciprocity, is available in all states and the District of Columbia.

**Internship** is a professional and practical experience under the supervision of a preceptor in a pharmacy approved by the Michigan State Board of Pharmacy, beginning after the student has been licensed by the Board of Pharmacy as an intern. Students must obtain a Michigan Internship License when they begin the professional curriculum of the College.

For additional information regarding internship, examination, or licensure in Michigan, write: Director, Licensing Division, Bureau of Health Services, Department of Consumer and Industry Services, P.O. Box 30670, Lansing MI 48909. Reciprocity information is available from: The Executive Director, National Association of Boards of Pharmacy, 700 Busse Highway, Park Ridge IL 60068-2402.

## Student Handbook

The student handbook, provided by this department, also contains policy statements that may pertain to admission, candidacy, and degree requirements. Students should be sure and consult this manual for the current statements on these policies. This can be found at <http://www.cphs.wayne.edu/pharmd/resources.php>.

## Financial Aid

General sources of financial aid for graduate students are listed in the section on Graduate Financial Assistance, beginning on page 26 of this bulletin. Additional scholarships are open to Pharm.D. students through the Office of Student Affairs, 2600 CPHS.

## PROFESSIONAL COURSES (PPR)

The following courses, numbered 5000-9999, are offered for professional credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **5135 Hospital Practice Introductory Experience. Cr. 2**

Offered for S and U grades only. Prereq: third professional year standing in Doctor of Pharmacy program. Material fee as indicated in Schedule of Classes. (Y)

### **5235 Community Practice Introductory Experience. Cr. 1**

Offered for S and U grades only. Prereq: third professional year standing in Doctor of Pharmacy program. (Y)

### **5990 Directed Study in Pharmacy Practice. Cr. 2**

Prereq: consent of instructor. No credit after election of two credits in any of PSC 5990, PSC 5991, PSC 5992, except by consent of department chair. (T)

### **6070 Principles of Pharmacoeconomics. Cr. 3**

Prereq: consent of instructor. Principles and tools used in economic evaluation of medications and technologies used in pharmacoeconomic research. Material Fee as indicated in the Schedule of Classes (F)

### **6110 Drug-Induced Diseases. Cr. 2**

Prereq: third professional year standing. Understanding the pathology associated with the use of drugs. Mechanisms and examples of how drugs damage different organ systems. Material Fee as indicated in the Schedule of Classes (Y)

### **6180 (WI) Advanced Ethics and Professional Responsibility. Cr. 0-2**

Prereq: third professional year standing or admission to Pharm.D. program. Advanced concepts in health care provision. Students required to submit a written paper, manuscript length and style, on an ethics in pharmacy project conducted as a course requirement. Satisfies the Writing Intensive requirement for Pharm.D. students. (F)

### **6290 Population-Based Medication Management. Cr. 2**

Prereq: third professional year standing in Doctor of Pharmacy program. Evaluation of medication use within selected populations. Discussions include therapeutic, humanistic, and economic outcomes and drug utilization review. (Y)

### **6300 Patient Perspectives of Health, Illness and Culture. (O T 6320) (P T 6320) Cr. 2**

Prereq: enrollment in Pharmacy and Health Care Sciences college or other health care program. 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. (S)

### **6460 Medication Safety. Cr. 2**

Prereq: P3 (Third Year) standing in Pharm.D. program. Open only to Pharm.D. students. The medication process; medication error detection, analysis, and prevention. (W)

### **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. (S)

### **6580 Contemporary Issues in Anticoagulation Management. Cr. 2**

Prereq: P3 (Third Year) standing in Pharm.D. program. Open only to Pharm.D. students. Advanced therapeutics in area of anticoagulant use. (F)

### **6590 Principles of Pain Management. Cr. 2**

Prereq: Pharm.D. students must be at level P-2 or above. Etiology, pathology, signs, symptoms and diagnosis of common pain syndromes from birth to end of life; treatment protocols, goals, outcomes, and monitoring parameters used for pain management. (W)

### **6720 Pharmacotherapeutics of Diabetes Mellitus. Cr. 2**

Prereq: PHA 5165. Multidisciplinary course. Knowledge and skills required to effectively manage patients with diabetes. (F)

### **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. (S)

### **6860 Principles of Pediatric Pharmacy. Cr. 2-3**

Prereq: last professional year, graduate, or graduate professional standing. Common pediatric problems and diseases including poisonings, cystic fibrosis, sickle-cell anemia, placental transfer of drugs and teratology. (Y)

### **7410 Advanced Pharmacy Practice Inpatient/Acute Care. Cr. 4**

Prereq: last professional year standing in Pharm.D. program. Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Material fee as indicated in Schedule of Classes. (T)

### **7420 Advanced Pharmacy Practice Ambulatory Care. Cr. 4**

Prereq: last professional year standing in Pharm.D. program. Open only to Doctor of Pharmacy students. Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. (T)

### **7430 Advanced Pharmacy Practice Patient Care Core. Cr. 4**

Prereq: last professional year standing in Pharm.D. program. Open only to Doctor of Pharmacy students. Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. (T)

### **7440 Advanced Practice Patient Care IV. Cr. 2-4**

Prereq: last professional year standing in Pharm.D. program. Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. (T)

### **7530 Advanced Pharmacy Practice Patient Care Elective I. Cr. 3 (Max. 12)**

Prereq: last professional year standing in Pharm.D. program. Open only to Doctor of Pharmacy students. Experimental education designed to provide practical training experience in managing drug therapy of specialized patients in diversified health-care settings. (T)

**7535 Advanced Pharmacy Practice Patient Care Elective II. Cr. 3**

Prereq: last professional year standing in Pharm.D. program. Experiential education designed to provide practical training experience in managing drug therapy of specialized patients in diversified health-care settings. (T)

**7540 Advanced Pharmacy Practice Non-Patient Care Elective I. Cr. 3 (Max. 6)**

Prereq: last professional year standing in Pharm.D. program. Open only to Doctor of Pharmacy students. Practical education to develop knowledge in specific areas of pharmacy practice in specialized pharmacy or health-care settings. (T)

**7545 Advanced Pharmacy Practice Non-Patient Care Elective II. Cr. 3**

Prereq: last professional year standing in Pharm.D. program. Practical education to develop knowledge in specific areas of pharmacy practice in specialized pharmacy or health-care settings. (T)

**7550 Advanced Pharmacy Practice General Hospital. Cr. 4**

Prereq: last professional year standing in Doctor of Pharmacy program. Coreq. with PPR 7560, PPR 7410-7440, PPR 7530. Practical training experience in hospital pharmacy practice, including pharmacy operations and clinical services. (T)

**7560 Advanced Pharmacy Practice General Community. Cr. 3-4**

Prereq: last professional year standing in Doctor of Pharmacy program. Coreq. with PPR 7550, PPR 7410-7440, PPR 7530. Practical training experience in management of a community pharmacy, and managing drug therapy of patients in community pharmacy setting. (T)

**7600 Introduction to Clinical Research. Cr. 2**

Prereq: PHA 4110, 4140, 4150, 4210, 4220, 4230, admission to Pharm.D. program.. Introduction to experimental design, research protocol development, grant preparation, data analysis, and report writing in clinical pharmacy research. (W)

**7670 Clinical Pharmacokinetics. Cr. 2**

Prereq: PHA 5155, PHA 5165, PHA 6180. Use of pharmacokinetic principles in dosing and monitoring of drug therapy. Material Fee as indicated in the Schedule of Classes (W)

**7840 Seminar in Clinical Pharmacy. Cr. 1-3 (Max. 8)**

Prereq: third or fourth professional year standing. Reports and discussions by students and members of the staff concerning current developments in clinical pharmacy. Material Fee as indicated in the Schedule of Classes (F,W)

**7880 Seminar in Health Systems Pharmacy Management. Cr. 1-2 (Max. 3)**

Prereq: consent of advisor. Reports and discussions by students and members of the staff concerning current developments in the field of health systems pharmacy. (Y)

**7990 Directed Study in Pharmacy Practice. Cr. 1-3 (Max. 5)**

Prereq: written consent of advisor and graduate officer. Open only to Pharm.D. and M.S. students in hospital pharmacy. Minor projects in pharmacy for students whose interests and needs are not adequately met in other scheduled classes or in the doctoral research project. (T)

# Physical Therapy

Office: 2246 CPHS; 313-577-1432

Program Director: Susan Ann Talley

Director of Clinical Education: Martha Schiller

Assistant Director of Research: Allon Goldberg

Website: <http://www.pt.cphs.wayne.edu/>

## Associate Professors

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## Assistant Professor

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## Cooperating Faculty

Merlin Ekstrom, Randall Gretebeck

## Associate Faculty

Sara Arena, Mary Tracy Bee, Cynthia Bell Brown, Erik DeMuelemeester, Robin Firby, Tracey Fleck, Kathleen Jakubiak Kovacek, Heike Shellhass-Krause, Cathy Larson, James Montante, Jon Nettie, Christopher Wilson, Kathryn Yoder

## Center Coordinators of Clinical Education

Cammie Adkins, Kathy Agrusa, Judith Aikman, Kristy Aldridge, Megan Allen, Amanda Willock, Mona Lee Assael, Heather Asti, Rachel Atanosian, Natasha Bachevie, Chris Barnett, Tim Barnett, Kelly Bartek, Erica Beaker, Lisa Berg, Kristin Berta, Michael Biller, Kristen Blankenship, Marcia Boileau, Ellen Bonczyk-Duce, Simina Bono, Katie Bowser, Heather Burk, Heidi Bush, Susan Butler, John Byars, Amberly Byington, Marti Carroll, Gretchen Carron, Dan Caverzan, JP Chartrand, Faye Chebab, April Church, Jeff Collaer, Paul Colosky, Kathy Cook, Lisa Cooper, Heather Costas, Rene Cotrell, Melissa Daenzer, Mark D'Aloisio, Tiffany Daniels, George Dave, Scott Delcomyn, Annmarie Dempsey, Danielle Dequin, Payal Desai, Loren Devinney, Bruce Diven, Joseph Donovan, Melissa Donselar, Janet Downey, Franz D'Souza, Chris Durall, Julie Kiefer Eaman, Chris Edwards, Alisa Eischen, Linda Erickson, Doug Essenberg, Liz Estes, Andrea Evancho, Megan Evans, Michael Fahmy, Timothy L. Fifer, Anna Fiorito, Arthur Fossen, Esther Frasher, Laura Freeman, Jaime Friday, Betsy Friedman, Rich Fruitman, Sue Gall, Deanna Geer, David George, Suzie Gerhardt, Susan Gibbs, Michael Gilbert, Judy Goik, Corey Gomez, Bob Gorkiewicz, Jacqueline Grabinski, Joanne Gramlich, Lechia Greene, Stan Guest, Jennifer Gwin, Linda Hall, Lori Hamby, Gavin Hamer, Tricia Harris, Allison Hedstrom, Mark Heitchue, Denise Helm, Jennifer Hergenroeder, Maryann Hermann, Teresa Herrlinger, Kerri Holliday, Mary Hydorn, John Imundi, Lorin Inbau, Kris Jablonski, Osa Jackson Schulte, Brad Jackson, Brian Jacobs, Dan Jacobson, Jamie Janes, Kristy Johnson, Tina Jones, Diane Kaip, Geevar Kannanayakal, Mark Kargela, Barb Kaye, Hanif Khatri, Bonni Kinne, Terri Kissinger, Ann Kowalski, Martha Kramer, Naren Kumar, Brinker Kurt, Beth Kuzma, Anne Landerville, Natalie Lapin, Stephen Leppard, Sarah Levitt, Matt Lewis, Trisha Link, Michelle Linowski, Mark Lusk, Gary Lutes, Sally Lyons, Valerie MacPherson, James Madonna, Catherine Manderfield, Elizabeth Marron, Michele Marshall, Sean Marshall, Michele Martin, Tony Mastrodisasa, Alice Maxson, Abby McGee, Andrea McMahon, Jodie Meikle, Lynn Messecar, Sarah Miller, Lori Mizoguchi, Kevin Moore, Cristina Morasset, Jamie Morris, Theresa Moyer, Trish Mozdzierz, Linda Mullins, Cynthia Muszynski, Cindy Nagy, Joe Naimo, A. Jake Neukom, Van Houw Nicole, Kai Nimtz, Harold Nodler, Shela Norwood, Adriana Novelli-Canner, Michael O'Hearn, Alma Oritz, Edward Orloff, Jennifer Ostrowski, Lori Overbeek, Jane Palomba, Martha Papke, Nick Patel, Keri Pawielski, Mary Pawlicki, Lt. Sarah Peck, Patricia Peel, Julie Perkins, Kerri Petherbridge, Tari Pethick, Kathi J. Piepenbrok, Dave Polson, Dhana Ponnens, Shailly Prabhakar, Vicky Pratt, Kirk Randall, Tapan Raut, David Reed,

Karen Reyhl, Danielle Roland, Reva Rosen, Paul Roubal, John Rubino, Kim Rutherford, Karen Sadowski, Maria SanJuan, Monika Sarin, Sharon Schroeder, Marcy Schulman, Cindy Schutt, Kim Schwartz, Alex Sciaky, Kate Shaw, Carolyn Sivitter, Brendan Smith, Karen Smith, Ken Soave, Ron Sorgeloos, Ted Spiro, Jan Stasinki, Kristina Stein, Ellen Steudle, Jennifer Stevenson, Lisa Stogner, Cheryl Strong, Sally Talbot, Craig Taylor, Nathan Tear, Michelle Thibodeau, Mary Lou Thorne, Teri Tidwell, Peter Trifan, Mike Trombley, Stacey Turner, Penny Tussing, Renee Vatne, Clint Verran, Mike Vito, Elaine Wade, Cindy Waitz, Lori Walker, David Walker, Nick Weber, Marilyn Welke, Brian Whalen, Sherry Wiggins-Baker, Denise Williams, Patricia Willmarth, Chris Wilson, Deanna Wirick, Stacy Wozniak, Jennifer Zackrisson

## Doctor of 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. This therapy includes examination, evaluation, diagnosis, prognosis, intervention, and analysis of outcomes. It provides services to patients/clients who have impairments of body function and structure, activity limitations, participation restrictions, disabilities, or changes in physical function and health status resulting from injury, disease, or other causes. Physical therapists also 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 therapy services.

Some examples of diagnoses of individuals who might be seen by a physical therapist include stroke, low back pain, neck pain, ACL knee injury, Parkinson's Disease, spinal cord injury, amputation, heart attack, athletic injury, arthritis, cerebral palsy, rotator cuff (shoulder) injury, total or partial 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.

The American Physical Therapy Association (APTA) is the organization which represents the physical therapy profession. The mission of the APTA is to further the profession's role in the prevention, diagnosis, and treatment of movement dysfunctions and the enhancement of the physical health and functional abilities of members of the public. Learn more about physical therapy at the APTA's website at <http://www.apta.org>.

**Accreditation:** The Physical Therapy Program at Wayne State University is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) (<http://www.capteonline.org/Home.aspx>). Graduates who receive a Doctor of Physical Therapy degree are eligible to take the national physical therapy licensure examination, the Canadian licensure examination, and for active membership in the American Physical Therapy Association.

### General Admission

Admission to this program is contingent upon admission to the Graduate School (for requirements, see page 18) and completion of the pre-professional course component thereof (see below).

The Doctor of Physical Therapy (D.P.T.) is offered by this department at two levels of admission: entry level D.P.T. and transitional D.P.T. The entry level degree program is for individuals who are not now practicing physical therapists but are interested in becoming physical therapists. The transitional Doctor of Physical Therapy program is for individuals who are already licensed as a physical therapist in the United States or Canada and who wish to expand their knowledge and skills to be better prepared to work as a primary care provider and expert practitioner. These programs lead to the same degree but require different admissions criteria and the completion of different sets of core courses.

## Entry-Level Program

**Admission - Entry Level:** A baccalaureate degree is not required for admission to the Doctor of Physical Therapy program. The requirements for consideration for admission vary, depending on whether the applicant will have an earned baccalaureate degree prior to enrollment but all applicants must meet requirements for admission to the Graduate School at Wayne State University (for requirements, see page 18).

Applicants who will not have a baccalaureate degree upon enrollment in the physical therapy program must successfully complete 1) a minimum of ninety credits, 2) all University General Education Requirements, 3) all physical therapy science pre-requisite courses, 4) all physical therapy non-science pre-requisite courses, and 5) an upper-level concentration to be considered for admission. Specific pre-requisites are listed below. A maximum of sixty credits of pre-professional course work may be transferred from a community college. Students admitted to the Doctor of Physical Therapy Program without a baccalaureate degree will graduate with the D.P.T. degree, but no baccalaureate degree will have been earned by virtue of completing this program.

Applicants who will have completed a baccalaureate degree prior to enrollment in the physical therapy program must complete all physical therapy science pre-requisite courses and all physical therapy non-science pre-requisite courses as listed below.

Admission to the entry-level Doctor of Physical Therapy (D.P.T.) professional program occurs on an annual basis with Physical Therapy courses beginning in the Fall Term. There are a limited number of spaces in the Physical Therapy program and admission is competitive. Completion of the admission requirements does not guarantee admission.

**Pre-professional course work** taken at another accredited college or university is acceptable as long as the courses are equivalent to the required courses. Students may use the Transfer Credit Evaluation tool to check equivalency of courses. A maximum of sixty credits of pre-professional course work may be transferred from a community college.

### 1. SCIENCE PREREQUISITE COURSES

(Thirty-seven Credits completed within six years prior to application). All science courses must be completed during the Fall Term prior to the application deadline.

- BIO 1510 -- (LS) Basic Life Mechanisms: Cr. 4
- BIO 2879 -- Anatomy and Physiology: Cr. 5
- BIO 3200 -- Human Physiology: Cr. 3
- CHM 1220 -- (PS) General Chemistry I: Cr. 4
- CHM 1230 -- General Chemistry I Lab: Cr. 1
- CHM 1240 -- Organic Chemistry I: Cr. 4
- CHM 1250 -- Organic Chemistry I Lab: Cr. 1
- KIN 3570 -- Physiology of Exercise I: Cr. 3
- MAT 1800 -- Elementary Functions: Cr. 4
- PHY 2130 -- (PS) General Physics: Cr. 3
- PHY 2131 -- General Physics - Lab: Cr. 1
- PHY 2140 -- General Physics: Cr. 3
- PHY 2141 -- General Physics Lab: Cr. 1

### 2. NON-SCIENCE PREREQUISITE COURSES (Nineteen Credits)

- ENG 1020 -- (BC) Introductory College Writing: Cr. 4
- ENG 3050 -- Technical Communication I: Reports: Cr. 3
- PSY 1010 -- (LS) Introductory Psychology: Cr. 4
- PSY 2400 -- Developmental Psychology: Cr. 4
- PSY 3010 -- Statistical Methods in Psychology: Cr. 4

### 3. UPPER-LEVEL CONCENTRATION (Six Credits Minimum)

Required only for students who will not have completed a baccalaureate degree prior to enrollment.

A minimum of six additional credits in upper division (3000 level or above) concentrated in ONE of the following areas:



Biology  
Chemistry  
Exercise Science  
Physics  
Psychology

#### 4. UNIVERSITY GENERAL EDUCATION REQUIREMENTS

Individuals must complete all University General Education requirements prior to enrolling in the Doctor of Physical Therapy program. These requirements can be found at the following Wayne State University website: <http://www.advising.wayne.edu/curr/gnd1.php>.

Individuals who have earned a baccalaureate degree are not required to complete the General Education Requirements.

5. Minimum of a 3.00 g.p.a. and no less than a 'C' (2.0 on a 4.00 scale) in all pre-requisite courses

6. Completion of PTCAS application: two letters of recommendation provided through PTCAS; a personal professional statement included in the PTCAS application; and a personal resume outlining your community or vocational activities, honors, employment, extra-curricular and volunteer activities included in the PTCAS application.

7. Completion of application to the Graduate School.

8. Written and Verbal Interviews (Notification of interview date is given after review of initial application. All applicants may not be invited to the interview process)

#### *Degree Requirements*

The Doctor of Physical Therapy degree requires a minimum of 126 credits, including all courses in the core curriculum listed below.

Consistent with Graduate School policy, the grading system for graduate students is 'intended to reflect a higher standard of critical and creative scholarship than those applied at the undergraduate level.' Continuing students are required to earn a minimum of a 3.00 g.p.a. to satisfy degree requirements. A graduate student who receives a 'C' grade in any course is expected to complete remedial work to demonstrate competency in the course requirements that may include repetition of the course the next time it is offered. Receiving more than two 'C' grades, or five grades below a B (3.0), in the curriculum is considered unsatisfactory progress and achievement, and will result in dismissal from the professional program. Students may also be dismissed from the program for unsatisfactory clinical performance or for unsatisfactory professional behavior.

All course work must be completed in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees; see the section of this bulletin beginning on page 32. In addition, the criteria for academic performance given in the *Physical Therapy Student Handbook* should be followed. The *Physical Therapy Student Handbook*, provided by this department, also contains policy statements that may pertain to admission, candidacy, and degree requirements which students should consult.

The core curriculum is subject to change without prior notice in response to the changing health care environment and accreditation standards.

#### *Core Curriculum (Entry-Level Program)*

P T 5010 -- Clinical Applications I: Cr. 1  
P T 5020 -- Introduction to Physical Therapy: Cr. 4  
P T 5070 -- Clinical Applications II: Cr. 2  
P T 5100 -- Therapeutic Exercise I: Cr. 3  
P T 5120 -- Human Growth and Development: Cr. 4  
P T 5200 -- Human Anatomy for Health Sciences: Cr. 4  
P T 5210 -- Human Anatomy for Health Sciences: Lab: Cr. 1  
P T 5300 -- Surface Anatomy: Cr. 1  
P T 5320 -- Basic Evaluation Procedures: Cr. 3  
P T 5400 -- Neuroanatomy and Neurophysiology for Health Sciences: Cr. 3  
P T 5410 -- Clinical Medicine I: Cr. 2  
P T 5430 -- Clinical Medicine II: Cr. 2

P T 5500 -- Kinesiology and Biomechanics: Cr. 3  
P T 5650 -- Pathophysiology for Health Sciences: Cr. 3  
P T 5660 -- Pathokinesiology: Cr. 2  
P T 5800 -- Clinical Education I: Cr. 3  
P T 5820 -- Clinical Education II: Cr. 3  
P T 6100 -- Therapeutic Exercise II: Cr. 2  
P T 6200 -- Diversity in Health Care: Cr. 2  
P T 6300 -- Critical Thinking and Inquiry for Health Professions: Cr. 2  
P T 6310 -- Physiology of Exercise II: Cr. 3  
P T 6400 -- Teaching and Learning in Health Care: Cr. 2  
P T 6500 -- Pharmacology: Cr. 2  
P T 6600 -- Ethics and Legal Issues: Cr. 2  
P T 6700 -- Motor Learning and Motor Control: Cr. 2  
P T 6750 -- Complementary and Alternative Health Care: Cr. 2  
P T 7000 -- Therapeutic Modalities: Cr. 4  
P T 7100 -- Management of Patients with Orthopedic Conditions I: Cr. 3  
P T 7120 -- Management of Patients with Orthopedic Conditions II: Cr. 3  
P T 7200 -- Management of Patients with Neurological Disorders I: Cr. 3  
P T 7220 -- Management of Patients with Neurological Disorders II: Cr. 3  
P T 7300 -- Rehabilitation Procedures I: Cr. 3  
P T 7320 -- Rehabilitation Procedures II: Cr. 3  
P T 7400 -- Cardiopulmonary Rehabilitation I: Cr. 2  
P T 7420 -- Cardiopulmonary Rehabilitation II: Cr. 2  
P T 7600 -- Physical Therapy for Medical and Surgical Conditions: Cr. 2  
P T 7700 -- Research in Health Sciences: Cr. 2  
P T 7720 -- Research in Physical Therapy: Cr. 3  
P T 8000 -- Therapeutic Management of Pediatric Populations: Cr. 3  
P T 8200 -- Management in Physical Therapy Practice: Cr. 2  
P T 8300 -- Differential Diagnosis for Health Sciences: Cr. 3  
P T 8400 -- Diagnostic Procedures for Health Sciences: Cr. 2  
P T 8500 -- Clinical Decision Making: Cr. 2  
P T 8600 -- Health Promotion and Wellness: Cr. 2  
P T 8800 -- Clinical Internship I: Cr. 6  
P T 8820 -- Clinical Internship II: Cr. 8

#### *Transitional Program*

**Admission** to the transitional program requires that the applicant be a physical therapist who has graduated from an accredited Baccalaureate or Master's Physical Therapy Program and is currently licensed in the United States or Canada. Letters of recommendation and a personal statement are also required. Persons interested in the transitional D.P.T. program should obtain information on admission from The Office of Student Affairs, Eugene Applebaum College of Pharmacy and Health Sciences, 259 Mack Ave., Wayne State University, Detroit, MI 48201 or by visiting the physical therapy website at [pt.wayne.edu](http://pt.wayne.edu). Admission at this level also requires admission to the Graduate School (for requirements, see page 18).

#### **Degree Requirements — Transitional Program**

Students in this program are required to complete a minimum of twenty-four credits in eight core courses if the student already possesses a Master of Physical Therapy degree. For individuals not possessing a Master of Physical Therapy degree, the applicant's educational and professional qualifications will be reviewed and an individual plan of work will be designed to provide sufficient preparation for the transitional D.P.T. curriculum.

The *Physical Therapy Student Handbook*, provided by this department, also contains policy statements that may pertain to admission, candidacy, and degree requirements. Students pursuing the D.P.T. should consult this handbook for the current statements on these policies.

The core curriculum is subject to change without prior notice in response to the changing health care and education environment.

#### *Core Curriculum (Transitional Program)*

P T 6300 -- Critical Thinking and Inquiry for Health Professions: Cr. 3  
P T 6400 -- Teaching and Learning in Health Care: Cr. 3  
P T 6700 -- Motor Learning and Motor Control: Cr. 3

P T 7990 -- Directed Study: Cr. 3  
P T 8170 -- Professional Development and Reflective Practice: Cr. 3  
P T 8300 -- Differential Diagnosis for Health Sciences: Cr. 3  
P T 8400 -- Diagnostic Procedures for Health Sciences: Cr. 3  
P T 8850 -- Clinical Practicum: Cr. 3

## Health and Liability Insurance

Clinical Education is provided throughout the professional program along with didactic courses. The final twenty-eight weeks of the program are spent in two assignments in selected clinical facilities throughout the metropolitan Detroit area, Michigan and other parts of the country. 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 the professional program. The student is responsible for the cost of these insurances and all other costs (such as travel, meals, living expenses) associated with the clinical education portion of the program.

## Financial Aid

The University offers opportunities to students in need of financial assistance to meet the expenses of their education. Information about scholarships and loans is available from the University Office of Scholarships and Financial Aid, University Welcome Center. Students in the professional D.P.T. curriculum are eligible to apply for the Graduate Professional Scholarship offered through the Graduate School. Additional information on these scholarships can be attained through the Graduate School website.

## GRADUATE COURSES (P T)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### 5010 Clinical Applications I. Cr. 1

Prereq. or coreq: P T 5320. Offered for S and U grades only. First part-time supervised clinical experience for physical therapy students. Orientation to clinical education; practice to develop professional behaviors, observation skills, communication, basic examination and intervention. Two half-days per week in seven-week term. (S)

### 5020 Introduction to Physical Therapy. Cr. 4

Prereq: admission to professional curriculum. Sociological and historical ground in PT profession. Basic physical therapy care procedures, documentation, patient education, care in medical emergencies. Material Fee as indicated in the Schedule of Classes (S)

### 5070 Clinical Applications II. Cr. 2

Offered for S and U grades only. Prereq. or coreq: P T 5010 or consent of instructor. Second part-time supervised clinical experience for physical therapy students. Orientation to clinical education including basic and intermediate examination and intervention skills, professional behavior, communication, documentation. (F,W)

### 5100 Therapeutic Exercise I. Cr. 3

Prereq: P T 5430, P T 5500; or consent of instructor. Fundamental principles and techniques of therapeutic exercise. Physiological, neuromuscular processes; adaptation of selected physical dysfunction pertinent to therapeutic exercise. Development of treatment protocols for specific patient physical problems. Material Fee as indicated in the Schedule of Classes (Y)

### 5120 Human Growth and Development. Cr. 4

Prereq: P T 5020, consent of instructor. 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, adults with disabilities, and the aging population. Material Fee as indicated in the Schedule of Classes (F)

### 5200 Human Anatomy for Health Sciences. (O T 5200) Cr. 4

Prereq: admission to Physical Therapy or Occupational Therapy professional program, or consent of instructor; coreq: P T 5210 or O T 5210. Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. (F)

### 5210 Human Anatomy for Health Sciences: Laboratory. (O T 5210) Cr. 1-2

Prereq: admission to professional OT program or consent of instructor; coreq: O T 5200 or P T 5200. Examination of prosections, dissection of human cadavers; didactic study. Material Fee as indicated in the Schedule of Classes (F)

### 5300 Surface Anatomy. Cr. 1

Coreq: P T 5200, P T 5210; or consent of instructor. Laboratory-based course teaching skills for soft tissue palpation, identification of surface anatomy landmarks, soft tissue mobilization and massage. (F)

### 5320 Basic Evaluation Procedures. Cr. 3

Prereq. or coreq: P T 5400, P T 5500; or consent of instructor. Basic principles and techniques of manual muscle testing, goniometry, and anthropometric measurements. Posture and gait evaluation. Laboratory. Material Fee as indicated in the Schedule of Classes (W)

### 5400 (O T 5400) Neuroanatomy and Neurophysiology for Health Sciences. Cr. 3

Open only to students admitted to EACPHS professional program. Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Material Fee as indicated in the Schedule of Classes (Y)

### 5410 Clinical Medicine I. Cr. 2

Prereq: admission to Physical Therapy program or consent of instructor. Disease processes, medical and surgical interventions. Role of physical therapist and other health care professionals: physician, occupational therapist, speech pathologist, psychologist, nurse, others. (Y)

### 5430 Clinical Medicine II. Cr. 2

Prereq: P T 5410. Continuation of P T 5410. Disease processes, medical and surgical interventions. Role of physical therapy as part of comprehensive health care team. (Y)

### 5500 Kinesiology and Biomechanics. Cr. 3

Prereq: P T 5200, P T 5210, P T 5400. Normal movement and biomechanics applied to the human body. Material Fee as indicated in the Schedule of Classes (F)

### 5650 (R T 5650) Pathophysiology for Health Sciences. (O T 5650) Cr. 3

Prereq: admission to Physical Therapy program or consent of instructor. Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes

accompanying disease processes; mechanisms of repair and recovery. (W)

**5660 Pathokinesiology. Cr. 2**

Prereq: P T 5500. Continuation of P T 5500. Additional depth and breadth. Material Fee as indicated in the Schedule of Classes (W)

**5800 Clinical Education I. Cr. 3**

Prereq: P T 7120 or P T 7220 or consent of instructor. Offered for S and U grades only. Full-time supervised clinical experience for physical therapy students. Six-week experience. First in a two-course clinical education sequence. (S)

**5820 Clinical Education II. Cr. 3**

Offered for S and U grades only. Prereq: P T 5800. Full-time supervised clinical experience for physical therapy students. Six-week experience. Second in a two-course clinical education sequence. (S)

**6100 Therapeutic Exercise II. Cr. 2**

Prereq: P T 5100 or consent of instructor. 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. Material Fee as indicated in the Schedule of Classes (F)

**6200 Diversity in Health Care. Cr. 2**

Prereq: P T 5120 or consent of instructor. Impact of diversity on role of health care professionals. Issues in cultural awareness, cultural sensitivity and cultural competence in personal, professional and societal contexts. Self-analysis of personal attitudes, values and beliefs. Service learning project. (F,W)

**6300 Critical Thinking and Inquiry for Health Professions. Cr. 2-3**

Prereq: admission to DPT or tDPT program or consent of instructor. Transitional DPT students must elect three credits; transitional course is Web-based. Introduction to evidence-based practice and clinical reasoning and decision making. Identification, location, critique and analysis of evidence. Evidence-based case report appropriate for publication required, if elected for three credits. Transitional DPT students must elect three credits; transitional course is Web-based. (T)

**6310 (PSL 6010) Physiology of Exercise II. (KIN 6310) Cr. 3**

Prereq: KIN 3570 or consent of instructor. 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. (F)

**6320 (PPR 6300) Patient Perspectives of Health, Illness and Culture. (O T 6320) Cr. 2**

Prereq: enrollment in Pharmacy and Health Care Sciences college or other health care program. Transitional DPT students must elect three credits; transitional course is Web-based. 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. (S)

**6400 Teaching and Learning in Health Care. Cr. 2-3**

Prereq: admission to DPT or tDPT program or consent of instructor. Transitional DPT students must elect three credits; transitional course is Web-based. 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. (W)

**6500 Pharmacology. Cr. 2**

Prereq: P T 5430, P T 7400 or consent of instructor. Effects of drug distribution, absorption and excretion as pertaining to physical ther-

apy. Major drug categories, OTC, and nutritional supplements, pertinent to acute and chronic responses to physical therapy; indications, mechanisms, effects. (F)

**6600 Ethics and Legal Issues. Cr. 2**

Prereq: P T 5020, P T 6200, P T 5820, or consent of instructor. Impact of legal practice standards, including federal, state, and institutional regulations related to patient care and fiscal management of health care practice. Ethics and ethical decision making. (W)

**6700 Motor Learning and Motor Control. Cr. 2-3**

Prereq: P T 5400; or admission to DPT or tDPT program; or consent of instructor. Transitional DPT students must elect three credits; transitional course is Web-based. Current theories and concepts in processes of motor skill acquisition and performance, from a behavioral objective. Transitional DPT students must elect three credits; transitional course is Web-based. Additional evidence-based case reports required if elected for three credits. (W)

**6750 Complementary and Alternative Health Care. Cr. 2**

Prereq: P T 5430, P T 5650, or consent of instructor. Definition and scope of complementary and alternative health care practice. Techniques include physical, psychological, and nutritional applications relevant to practice of physical therapy. (W)

**7000 Therapeutic Modalities. Cr. 4**

Prereq: P T 5430, P T 5660. 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. Material Fee as indicated in the Schedule of Classes (F)

**7100 Management of Patients with Orthopedic Conditions I. Cr. 3**

Prereq: P T 5320, P T 5500; prereq. or coreq: P T 5100; or consent of instructor. Theoretical aspects, principles and techniques of the management of patients with orthopedic problems and their application to the practice of physical therapy. Special exercise regimes, musculoskeletal evaluation techniques, orthopedic evaluation and treatment. Material Fee as indicated in the Schedule of Classes (F)

**7120 Management of Patients with Orthopedic Conditions II. Cr. 3**

Prereq: P T 7100 or consent of instructor. Theoretical aspects, principles and techniques for management of patients with orthopedic conditions of the spinal column and extremity joints; includes examination and evaluation, differential diagnosis, intervention and progression. Material Fee as indicated in the Schedule of Classes (W)

**7200 Management of Patients with Neurological Disorders I. Cr. 2-3**

Prereq: P T 5400, P T 6700; or consent of instructor. 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. Material Fee as indicated in the Schedule of Classes (Y)

**7220 Management of Patients with Neurological Disorders II. Cr. 3**

Prereq: P T 7200 or consent of instructor. Theory, principles and application of the neurophysiological approach to evaluation and treatment. Proprioceptive neuromuscular facilitation, neuro development treatment, sensory integration, and sensory-motor approaches. Material Fee as indicated in the Schedule of Classes (W)

**7300 Rehabilitation Procedures I. Cr. 3**

Prereq: P T 5100 or consent of instructor. 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 envi-

ronmental control systems. Material Fee as indicated in the Schedule of Classes (F)

**7320 Rehabilitation Procedures II. Cr. 3**

Prereq. or coreq: P T 7200, P T 7300; or consent of instructor. Theoretical issues and treatment of patients with spinal cord injury, traumatic brain injury, problems of aging, and chronic neuromuscular conditions. Supportive technology, coping mechanisms and support systems of individuals experiencing illness, disability, or terminal illness. Material Fee as indicated in the Schedule of Classes (W)

**7400 Cardiopulmonary Rehabilitation I. Cr. 2**

Prereq: P T 5100, P T 5430, P T 6310, or consent of instructor. Review of physiology, and pathophysiology of disorders of the cardiac and pulmonary systems. Evaluation and treatment of cardiopulmonary disorders. Material Fee as indicated in the Schedule of Classes (W)

**7420 Cardiopulmonary Rehabilitation II. Cr. 2**

Prereq: P T 7400 or consent of instructor. Continuation of P T 7400. Material Fee as indicated in the Schedule of Classes (W)

**7600 Physical Therapy for Medical and Surgical Conditions. Cr. 2**

Prereq: P T 5650, P T 5430, or consent of instructor. Management of patients with complex problems including medical and surgical conditions. Material Fee as indicated in the Schedule of Classes (W)

**7700 Research in Health Sciences. Cr. 2**

Prereq: P T 6300 or consent of instructor. Introduction to basic principles of research theory, design, and methodology for physical therapy. Biostatistics and analysis of scientific literature relevant to physical therapy. (F)

**7720 Research in Physical Therapy. Cr. 3**

Prereq: P T 7700 or consent of instructor. 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. (W)

**7800 Advanced Clinical Education I. Cr. 4**

Prereq: P T 5800, consent of instructor. Offered for S and U grades only. Supervised experience in clinical environments. Case study and activity reports required. (S)

**7990 Directed Study. Cr. 1-4**

Prereq: P T 5100 or consent of instructor. Independent study: critical analysis or review of new or unique topics in health care; or physical therapy role, approach, methodology, techniques or scientific rationale for professional practice. Oral and written presentation required. Elective. (Y)

**8000 Therapeutic Management of Pediatric Populations. Cr. 3**

Prereq: P T 5120; P T 7220 or consent of instructor. Principles and application of the elements of physical therapy practice in the management of pediatric populations. (F)

**8170 Professional Development and Reflective Practice. Cr. 3**

Prereq: admission to DPT or tDPT program or consent of instructor. 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. (T)

**8200 Management in Physical Therapy Practice. Cr. 2**

Prereq: admission to physical therapy program or consent of instructor. Overview of health care systems; financing and administration of physical therapy services within various health care systems. (F)

**8300 Differential Diagnosis for Health Sciences. Cr. 3**

Prereq: admission to DPT or tDPT program or consent of instructor. 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. (T)

**8400 Diagnostic Procedures. Cr. 2-3**

Prereq: P T 5650, P T 5430; or admission to DPT program or transitional DPT program; or consent of instructor. Transitional DPT students must elect three credits; transitional course is Web-based. 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. Material Fee as indicated in the Schedule of Classes (T)

**8500 Clinical Decision Making. Cr. 2**

Prereq: P T 8300 or consent of instructor. 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. Material Fee as indicated in the Schedule of Classes (Y)

**8600 Health Promotion and Wellness. Cr. 2**

Prereq: P T 5100, P T 7400; or consent of instructor. 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. (Y)

**8700 Seminar in Physical Therapy. Cr. 2**

Prereq: P T 7720 and 7800, or consent of instructor; coreq: 8500. Exploration of contemporary and controversial topics in physical therapy and health care. Student presentations, discussions, and written assignments. (Y)

**8800 Clinical Internship I. Cr. 6**

Prereq: satisfactory completion of all professional didactic and clinical courses; or consent of instructor. Offered for S and U grades only. Final full-time supervised clinical experiences for physical therapy students. First of two-course series. (Y)

**8820 Clinical Internship II. Cr. 8**

Prereq. or coreq: P T 8800 or consent of instructor. Offered for S and U grades only. Full-time supervised clinical internship. Continuation of P T 8800. (F)

**8850 Clinical Practicum. Cr. 3**

Prereq: admission to transitional DPT program or consent of instructor. 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. (T)

# Physician Assistant Studies

Office: 2590 CPHS; 313-577-1368  
Program Director: Stephanie Gilkey  
Website: <http://www.pa.cphs.wayne.edu/>

## Professor

Howard J. Normile

## Associate Professor

John McGinnity

## Assistant Professors

Kevin Geltz, Stephanie J. Gilkey, Suzy Schmeltz, Mohamed Siddique

## Instructor

Carol Catalano

## Part-Time Faculty

Elizabeth Adams, Mary Tracey Bee, Sara Lolar, Lisa Nelson, Philip Pokorski, Michael Wimmer

## Adjunct Faculty

Julie Amicucci, Richard Balon, Michael Brooks, David Dereczyk, Marc Edelstein, Yvonne Friday, Vinaya Gavini, Jean Holland, Douglas Howell, Willane Krell, Anthony Kurnat, Keith Larsen, Ira Mikelson, Frank Nysow, Daniel O'Brien, Marissa Przybylo, David Stone, Jose Valdez

## Graduate Degree

### MASTER OF SCIENCE in Physician Assistant Studies

The physician assistant is academically and clinically prepared to provide health care services with the direction and responsible supervision of a doctor of medicine or osteopathy. Within the physician/physician assistant relationship, physician assistants make clinical decisions and provide a broad range of diagnostic, therapeutic, preventive and health maintenance services. The clinical role of physician assistants includes primary and specialty care in medical and surgical practice settings. Physician assistant practice is centered on patient care and may include educational, research and administrative activities.

## Master of Science in Physician Assistant Studies

**Admission** to this program is conducted through application submitted to the Centralized Application Service for PAs (<http://www.caspaonline.org>) and is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants must have a bachelor's degree from an accredited college or university. In addition, students must: 1) have a minimum cumulative and prerequisite undergraduate grade point average of 3.0; 2) complete the general test of the Graduate Record Examination; 3) submit three letters of recommendation, one from a work supervisor and preferably one from a physician assistant; 4) submit a 750-word narrative stating his/her personal and professional goals; and 5) have a minimum of 500 hours of direct, "hands-on" patient care experience in a health-service environment. ( Additionally, students whose native language is not English and have not completed four years of high school in the U.S., must complete the TOEFL.) Please consult the WSU PAS pro-

gram website (<http://www.pa.cphs.wayne.edu>) for a complete list of admission criteria.

**Prerequisite Study:** In addition, the following coursework must have been successfully completed with a grade of "B" or higher in order to be considered for admission. Those marked with an asterisk (\*) must be completed within the six years prior to the date of application to this degree program:

Anatomy:\* one course  
Advanced physiology:\* two courses,  
(one course must be 3000 level or above)  
Microbiology\* (with laboratory): one course  
Nutrition: one course  
Chemistry\*: two courses (one course must be organic or biochemistry)  
Developmental psychology: one course  
Basic statistics: one course  
English composition: two courses  
Medical terminology, one course

**Admission Interview:** Admission to this program is competitive, and applicants satisfying the above minimum requirements will be required to appear for an interview.

**Program Deadlines:** All prerequisite coursework must be completed by September 1 of the year prior to the start of the program. Applicants must submit two separate applications: 1) one to the Graduate School, and 2) one through the national physician assistant studies application service (CASPA). Internet sites for these applications are: WSU Graduate School application may be found at the following url: <http://gradadmissions.wayne.edu/>

CASPA website: <http://www.caspaonline.org>

Applications to the Program will be available each May. Application deadline for the Program and the date by which date all material must be submitted is September 1.

**General Information Meetings** are held at the Eugene Applebaum College of Pharmacy and Health Sciences the first Tuesday of each month at 6:00 p.m. at the College. Contact the program for details.

**DEGREE REQUIREMENTS:** The Master of Science in Physician Assistant Studies is offered under a Plan C option, requiring successful completion of fifty-four credits in course work over two years or six semesters. All course work must be completed in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees (see the section of this bulletin beginning on page 32), and in accordance with the Physician Assistant Studies Program Student Policy and Information Manual. A grade of 'C' in any graduate course is unacceptable.

### Spring/Summer Term — Year I:

PAS 7000 -- Anatomy for Physician Assistants I: Cr. 2  
PAS 7001 -- Anatomy for Physician Assistants II: Cr. 1  
PAS 7010 -- Clinical Medicine I: Cr. 3  
PAS 7040 -- Patient Evaluation I: Cr. 2  
PAS 7070 -- Health Care Issues I: Cr. 1  
PAS 7500 -- Pathophysiology I: Cr. 1

### Fall Term — Year I:

PAS 7020 -- Clinical Medicine II: Cr. 3  
PAS 7050 -- Patient Evaluation II: Cr. 2  
PAS 7080 -- Health Care Issues II: Cr. 1  
PAS 7100 -- Pharmacology I: Cr. 2  
PAS 7510 -- Pathophysiology II: Cr. 1

### Winter Term — Year I:

PAS 7030 -- Clinical Medicine III: Cr. 4  
PAS 7060 -- Patient Evaluation III: Cr. 3  
PAS 7090 -- Health Care Issues III: Cr. 1  
PAS 7110 -- Pharmacology II: Cr. 2  
PAS 7520 -- Pathophysiology III: Cr. 1

### **Spring/Summer Term — Year II:<sup>1</sup>**

PAS 8000 -- Internal Medicine Rotation (Practicum): Cr. 4  
PAS 8050 -- Surgery Rotation (Practicum): Cr. 4

### **Fall Term — Year II:<sup>1</sup>**

PAS 8010 -- Obstetrics & Gynecology Rotation (Practicum): Cr. 2  
PAS 8020 -- Emergency Medicine Rotation (Practicum): Cr. 2  
PAS 8030 -- Pediatrics Rotation (Practicum): Cr. 2  
PAS 8040 -- Psychiatry Rotation (Practicum): Cr. 2

### **Winter Term — Year II:<sup>1</sup>**

PAS 8060 -- Family Medicine Rotation (Practicum): Cr. 6  
PAS 8070 -- Preceptorship: Cr. 2

## **Student Manual**

The student manual, provided by this Program, also contains policy statements that may pertain to admission, candidacy, and degree requirements. Students should be sure to consult this manual for the current statements on these policies.

## **Financial Aid**

Sources of financial aid for graduate students are enumerated in the section on Graduate Financial Assistance beginning on page 26 of this bulletin. In addition, the Program suggests that students consult external sources such as the *National Health Service Corps Scholarship and Loan Repayment Programs*.

## **GRADUATE COURSES (PAS)**

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 which are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7000 Anatomy for Physician Assistants I. Cr. 2**

Prereq: admission to physician assistant studies program. 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. Material Fee as indicated in the Schedule of Classes (Y)

### **7001 Anatomy for Physician Assistants II. Cr. 1**

Prereq: admission to physician assistant studies program. 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. (Y)

### **7010 Clinical Medicine I. Cr. 3**

Prereq: admission to physician assistant studies program. Introduction to etiology, manifestation, diagnosis, prevention and treatment of disease; includes: gastroenterology, psychiatry, dermatology, heart and lungs, pediatrics, obstetrics and gynecology, cardiology, neurology, radiology, endocrinology, urology, orthopedics. Material Fee as indicated in the Schedule of Classes (Y)

### **7020 Clinical Medicine II. Cr. 3**

Prereq: PAS 7010. Continuation of PAS 7010. Material Fee as indicated in the Schedule of Classes (Y)

### **7030 Clinical Medicine III. Cr. 4**

Prereq: PAS 7020. Continuation of PAS 7020. Material Fee as indicated in the Schedule of Classes (Y)

### **7040 Patient Evaluation I. Cr. 2**

Prereq: admission to physician assistant studies program. Elicitation and recording of complete medical history; chief complaint history of present illness, past medical history, social history, family history. Students taught to perform complete and comprehensive physical examination. Material Fee as indicated in the Schedule of Classes (Y)

### **7050 Patient Evaluation II. Cr. 2**

Prereq: PAS 7040. Continuation of PAS 7040. Material Fee as indicated in the Schedule of Classes (Y)

### **7060 Patient Evaluation III. Cr. 3**

Prereq: PAS 7050. Continuation of PAS 7050. Material Fee as indicated in the Schedule of Classes (Y)

### **7070 Health Care Issues I. Cr. 1**

Prereq: admission to physician assistant studies program. Principal components of health care system: social, political, and economic evolution and development. Material Fee as indicated in the Schedule of Classes (Y)

### **7080 Health Care Issues II. Cr. 1**

Prereq: PAS 7070. Specialized techniques required in care of patients. Material Fee as indicated in the Schedule of Classes (Y)

### **7090 Health Care Issues III. Cr. 1**

Prereq: PAS 7080. Fundamental principles of experimental and statistical analysis, emphasizing biomedical research. Material Fee as indicated in the Schedule of Classes (Y)

### **7100 Pharmacology I. Cr. 2**

Prereq: admission to physician assistant studies program. 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. Material Fee as indicated in the Schedule of Classes (Y)

### **7110 Pharmacology II. Cr. 2**

Prereq: PAS 7100. Continuation of PAS 7100, Material Fee as indicated in the Schedule of Classes (Y)

### **7500 Pathophysiology I. Cr. 1**

Prereq: admission to physician assistant studies program. Dynamics of alterations in function in response to disease. (Y)

### **7510 Pathophysiology II. Cr. 1**

Prereq: PAS 7500. Continuation of PAS 7500. (Y)

### **7520 Pathophysiology III. Cr. 1**

Prereq: PAS 7510. Continuation of PAS 7510; final course in sequence of three. (Y)

### **8000 Internal Medicine Rotation: Practicum. Cr. 4**

Prereq: completion of first year didactic curriculum in PAS. Student is exposed to variety of medical situations; establishment of health states database for patient, performance of complete physical examination, ordering of appropriate diagnostic screening. Material Fee as indicated in the Schedule of Classes (Y)

### **8010 Obstetrics and Gynecology Rotation: Practicum. Cr. 2**

Prereq: completion of first year didactic curriculum in PAS. Introduction to the problems of prenatal and postnatal care. (Y)

### **8020 Emergency Medicine Rotation: Practicum. Cr. 2**

Prereq: completion of first year didactic curriculum in PAS. System approach to management of surgical and medical emergencies. Ini-

1. Year II rotation sequence will vary for each student.

tial assessment and triage of injured patients and management of common problems. Preparation for Advance Cardiac Life Support (ACLS) competencies. Material Fee as indicated in the Schedule of Classes (Y)

**8030 Pediatrics Rotation: Practicum. Cr. 2**

Prereq: completion of first year didactic curriculum in PAS. Study of the problems of newborns and children through adolescence. Material Fee as indicated in the Schedule of Classes (Y)

**8040 Psychiatry Rotation: Practicum. Cr. 2**

Prereq: completion of first year didactic curriculum in PAS. Development of concepts taught in the didactic curriculum with specific reference to mental illness. Manifestations of psychopathology, patient evaluation, psychiatric interviews and assessments of mental status of individual patients. Material Fee as indicated in the Schedule of Classes (Y)

**8050 Surgery Rotation: Practicum. Cr. 4**

Prereq: completion of first year didactic curriculum in PAS. Examination of patients anticipating surgical intervention, arrangement and recommendation of further evaluations and participation in selected surgical procedures. Material Fee as indicated in the Schedule of Classes (Y)

**8060 Family Medicine Rotation: Practicum. Cr. 6**

Prereq: completion of first year didactic curriculum in PAS. Supervised clinical family medicine rotation to provide experience in outpatient evaluation of pediatric and adult patients. Material Fee as indicated in the Schedule of Classes (Y)

**8070 Preceptorship. Cr. 2**

Prereq: completion of first year didactic curriculum in PAS. Rotation specialized to the primary care needs of individual physician assistant students in last phase of clinical training. Material Fee as indicated in the Schedule of Classes (Y)



# Radiologist Assistant Studies

Office: 1130 CPHS; 313-577-9404

Program Director: Kathleen Kath

Website: <http://www.cphs.wayne.edu/program/ra-ms.php>

## Assistant Professor

Kathleen Kath

## Part-Time Faculty

Donald Peck, William Porter

## Adjunct Faculty

John Blasé, Denise Collins, Chad Poopat, William Sanders, Scott Sturza

## Graduate Degree

### MASTER OF SCIENCE in Radiologist Assistant Studies

A radiologist assistant is an advanced-level radiologic technologist who enhances patient care by extending the capacity of the radiologist in the diagnostic imaging environment. The radiologist assistant is an ARRT-certified radiographer who has completed an advanced academic program encompassing a nationally recognized radiologist assistant curriculum and a radiologist-directed clinical preceptorship. With radiologist supervision, the radiologist assistant performs fluoroscopy and selected radiology procedures, patient assessment, patient management and initial evaluation of diagnostic images, but does not provide an official interpretation (final written report) as defined by the ACR Standards for Communication: Diagnostic Radiology.

## Master of Science in Radiologist Assistant Studies

**Admission** to this program is contingent upon admission to the Graduate School; for requirements, see page 18. Applicants must have a bachelor's of science degree from an accredited college or university. In addition, students must: 1) have a minimum cumulative undergraduate grade point average of 3.0; 2) have graduated from a Radiologic Technology program accredited by the Joint Review Committee on Education in Radiologic Technology; 3) be employed as a Radiologic Technologist for a minimum of three years; 4) provide a current copy of proof of American Registry of Radiologic Technologists registration; 5) provide proof of current Basic Life Support certification; 6) submit three letters of recommendation; and 7) submit a narrative stating his/her personal and professional goals.

The GRE is not required for admission into this program.

**Prerequisite Study:** In addition to the above admissions criteria, the following prerequisites must have been successfully completed with a minimum grade of 'B' (3.0 on 4.0 scale). Those marked with an asterisk (\*) must be completed within the six years prior to the date of application to this degree program. All prerequisites must be completed by December 31st of the year prior to which you are seeking admission.

PSY 2400 or equivalent (Developmental Psychology)

PSL 3220 or BIO 4120 or equivalent

(Advanced Human Physiology\* course at 3000 level or higher)

RDT 3800 or equivalent (Cross-Sectional Anatomy as part of the accredited Radiologic Technology program; may also demonstrate by proficiency exam. Clinical practice may fulfill this prerequisite. It is recommended that students check

with the Department Chairperson to determine if they have completed this prerequisite prior to submitting an application.)

STA 1020 or equivalent (Basic Statistics)

ENG 3050 or equivalent (Professional/Technical Writing: Reports)

**Letters of recommendation** are required as part of the departmental application package. One letter of recommendation must come from the immediate supervisor. One letter of recommendation must come from a radiologist with whom the student has worked.

**Preliminary Interview:** Applicants satisfying the above minimum requirements are expected to appear for a scheduled interview.

**Program Deadlines:** All prerequisite requirements, (with the exception of personal interview), must be completed by the end of the fall semester prior to admission in the spring/summer semester. Applicants must submit two separate applications: 1) to the Graduate School, and 2) to the EACPHS Academic Advising Office. Internet sites for these applications are:

WSU Graduate School:

<http://gradadmissions.wayne.edu/>

EACPHS (college) application:

[http://www.cphs.wayne.edu/admission\\_process.php](http://www.cphs.wayne.edu/admission_process.php)

Application deadline for the program is November 30 of the year prior to the one for which the applicant is seeking admission.

**General Information Sessions** are held at the Eugene Applebaum College of Pharmacy and Health Sciences the first Tuesday of each month at 6:00 p.m. at the College. Details can be found at <http://www.cphs.wayne.edu>

## Degree Requirements

The Master of Science in Radiologist Assistant Studies is offered as a Plan C master's program requiring successful completion of forty-eight credits in coursework over two full consecutive years or six consecutive semesters. All course work must be completed in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees (see the section of this bulletin beginning on page 32) and procedures of the Graduate School governing graduate scholarship and degrees (see Academic Regulations) and in accordance with the Radiologist Assistant Studies Program Student Policy and Information Manual. A grade of 'C' in any graduate course is unacceptable.

### *Radiologist Assistant Graduate Program*

#### *YEAR 1*

##### ***Spring/Summer Term Year 1***

PAS 7000 -- Anatomy for Physician Assistants I: Cr. 2

PAS 7001 -- Anatomy for Physician Assistants II: Cr. 1

PAS 7070 -- Health Care Issues I: Cr. 1

PAS 7500 -- Pathophysiology I: Cr. 1

RAS 7400 -- Patient Assessment for RAs: Cr. 3

##### ***Fall Term Year 1***

PAS 7080 -- Health Care Issues II: Cr. 1

PAS 7100 -- Pharmacology: Cr. 2

PAS 7510 -- Pathophysiology II: Cr. 1

RAS 7410 -- Clinical Correlation of Disease Processes: Cr. 1

##### ***Winter Term Year 1***

PAS 7090 -- Health Care Issues III: Cr. 1

PAS 7110 -- Pharmacology II: Cr. 2

RAS 7020 -- Cross-Sectional Anatomy, Physiology, Pathol.: Cr. 3

RAS 7121 -- Contrast Media: Cr. 1

RAS 7310 -- Radiologist Mentored Experience I: Cr. 1

#### *YEAR 2*

**Note:** The sequencing of clinical year two rotation is illustrative of a typical student schedule.

##### ***Spring/Summer Term Year 2***

RAS 7320 -- Radiologist Mentored Experience II: Cr. 5

RAS 7610 -- Radiologic Procedures I: Cr. 1

##### ***Fall Term Year 2***

RAD 7000 -- Imaging Physics I: Cr. 4

RAD 7070 -- Radiation Safety: Cr. 2

RAS 7330 -- Radiologist Mentored Experience III: Cr. 5

RAS 7620 -- Radiologic Procedures II: Cr. 1

##### ***Winter Term Year 2***

RAS 7800 -- Image Analysis: Cr. 2

RAS 7340 -- Radiologist Mentored Experience IV: Cr. 6

Total Credits: 48

## Student Manual

A Student Manual is available containing policy statements that may pertain to admission, candidacy, competency, and degree requirements. Students should be sure to consult this manual as necessary. A hard copy of the manual will be provided upon acceptance to the program.

## Financial Aid

For sources of financial aid for graduate students, see page 26.

## GRADUATE COURSES (RAS)

The following courses, numbered 7020-7800, are offered for graduate credit. For interpretation of numbering system, signs and abbreviations, see page 652.

### **7000 Physics of Imaging. Cr. 4**

Prereq: admission to RAS M.S. program; RAS 7610, RAS 7070, RAS 7320. Survey course for the advanced practitioner in graduate radiologic sciences. (S)

### **7020 Cross-Sectional Anatomy, Physiology and Pathology. Cr. 3**

Prereq: PAS 7090, PAS 7110, RAS 7120, RAS 7800, RAS 7310; acceptance in RAS program. Image correlation to anatomy, physiology, and pathology. (W)

### **7070 Radiation Safety. Cr. 2**

Prereq: admission to RAS program; RAS 7610, RAS 7000, and RAS 7320. Operational safety and imaging of fluoroscopic equipment in the clinical setting; for advanced practitioners in graduate radiologic sciences. (S)

### **7121 Contrast Media. Cr. 1**

Prereq: PAS 7090, PAS 7110, RAS 7120, RAS 7800, RAS 7310; acceptance in RAS program. Review of contrast media used during common radiographic procedures. (W)

### **7310 Radiologist Mentored Experience I. Cr. 1**

Prereq: PAS 7090, PAS 7110, RAS 7120, RAS 7800, RAS 7020; acceptance in RAS program. Clinical knowledge and activities associated with radiology procedures. (W)

### **7320 Radiologist Mentored Experience II. Cr. 5**

Prereq: PAS 7090, PAS 7110, RAS 7120, RAS 7800, RAS 7310; acceptance in RAS program. Continuation of RAS 7310. (Y)



**7330 Radiologist Mentored Experience III. Cr. 5**

Prereq: RAS 7620; acceptance in RAS program. Continuation of RAS 7320. (F)

**7340 Radiologist Mentored Experience IV. Cr. 6**

Prereq: RAS 7330; acceptance in RAS program. Continuation of RAS 7330. (W)

**7400 Patient Assessment for RAs. Cr. 3**

Prereq: PAS 7000, PAS 7001, PAS 7070, PAS 7500; acceptance in RAS program. Physical examination and assessment. (S)

**7410 Clinical Correlation of Disease Processes. Cr. 1**

Prereq: PAS 7080, PAS 7100, PAS 7510, RAD 7000; acceptance in RAS program. Collection of pertinent data about patient and procedure. (F)

**7610 Radiologic Procedures I. Cr. 1**

Prereq: RAD 7070, RAS 7320; acceptance in RAS program. Radiologic imaging procedural fundamentals. (S)

**7620 Radiologic Procedures II. Cr. 1**

Prereq: RAS 7330; acceptance to RAS program. Advanced radiologic procedures for the radiologist assistant. (F)

**7800 Image Analysis. Cr. 2**

Prereq: PAS 7090, PAS 7110, RAS 7120, RAS 7020, RAS 7310; acceptance in RAS program. Image post-processing fundamentals. (F)



# School of Social Work

INTERIM DEAN: Cheryl E. Waites

# Foreword

## Social Work

The mission of the School of Social Work at Wayne State University is to transmit, develop, critically examine, and apply knowledge to advance social work practice and social welfare policy in order to promote social, cultural and economic justice for the betterment of poor, vulnerable, and oppressed individuals, families, groups, communities, organizations, and society. This is accomplished in a learning environment that aims to prepare ethical and competent social work practitioners for practice in primarily urban settings; in the conduct of research with particular relevance to urban populations; and for the provision of innovative leadership and service to the urban community and the profession. Both faculty and students serve the community by participating in professional organizations, civic and community groups, and human service organizations.

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 to addressing the problems of people living in this environment in its teaching, research, and service activities. 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 to influence social policies.

The School prepares professionals to alleviate the condition of those affected by poverty, racism, sexism, ageism, homophobia, unemployment, and those with emotional disturbances, or physical and/or developmental impairments. Students learn methods of intervention with individuals, families, groups, communities, and organizations. Doctoral students learn the advanced research competencies required to engage in applied research for social work practice and social welfare policy. In synchrony with its emphasis on serving people in the Detroit metropolitan area, the School shares with the University a commitment to recruit students of minority ethnic backgrounds.

## Accreditation

The undergraduate program leading to the Bachelor of Social Work and the graduate program leading to the Master of Social Work are accredited by the Council on Social Work Education, the authorized accrediting body for 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 body that provides guidelines for and oversight to doctoral degree programs in this field.

## Board of Visitors

The School of Social Work's Board of Visitors works with the faculty and staff to advance the goals of the School, focusing on fund development, external relations, and alumni development, and helping to effect a close working relationship between the School and local and national leadership in the private and public sectors. The board consists of influential community leaders with varying backgrounds and ethnicity, many of whom are alumni or have other substantial connection to the goals and programs of the School. Members of the Board of Visitors are:

Susan H. Rogers, Chair; N. Charles Anderson; C. Patrick Babcock; Michael Brennen; Larmender A. Davis; Juanita Doss; Michael S. Earl; Annette S. Freedman; George D. Gaines, Jr.; Allan Gelfond; Shirley Mann Gray; Louise Guyton; Paul L. Hubbard; Angela G. Kennedy; Guadalupe G. Lara; Mohamed Okdie; V. Lonnie Peek, Jr.; Lenora Stanfield; Lillie Tabor; John H. Talick; Alice G. Thompson; Jacqueline E. Washington; Eloise C. Whitten; and Angela B. Wilson.

## Programs

The School of Social Work prepares students at the undergraduate and graduate levels for entry level generalist practice or advanced practice in the profession. Its principal programs lead to the Bachelor of Social Work, the Master of Social Work, and the Doctor of Philosophy. The Bachelor of Social Work program prepares students for entry level generalist professional practice. The Master of Social Work degree program prepares graduates for advanced professional practice. This program includes concentrations in interpersonal practice and innovation in community, policy and leadership. The Doctor of Philosophy in Social Work prepares social work educators and scholars whose research on pressing urban problems will advance social work practice and social welfare policy. This program includes rigorous training in qualitative and quantitative research methods, advanced course work in social work as well as completion of a cognate area in another discipline and mastery of specialized social work content areas.

Post-degree courses are available to those who have been awarded the bachelor's and master's degrees. The School offers Dual Title and Graduate Certificate Programs, as well as special institutes and workshops for persons working in the field of social welfare and school social work. Continuing education in social work is also offered through the School.

## Graduate Degrees and Certificate Programs

*MASTER OF SOCIAL WORK*

*MASTER OF SOCIAL WORK*

*with a Dual Title in INFANT MENTAL HEALTH*

*DOCTOR OF PHILOSOPHY IN SOCIAL WORK*

*DOCTOR OF PHILOSOPHY IN SOCIAL WORK*

*with a Dual Title in INFANT MENTAL HEALTH*

*GRADUATE CERTIFICATE IN SOCIAL WORK PRACTICE WITH FAMILIES AND COUPLES*

*GRADUATE CERTIFICATE IN DISABILITIES*

*GRADUATE CERTIFICATE PROGRAM IN ALCOHOL AND DRUG ABUSE STUDIES*

*GRADUATE CERTIFICATE IN GERONTOLOGY*

*GRADUATE CERTIFICATE IN SOCIAL WELFARE RESEARCH AND EVALUATION*

## School Social Work Approval Program

Students in the program leading to the Master of Social Work may qualify concurrently for Department of Education temporary approval for social work positions in Michigan school districts. Specific information on approval requirements for students and M.S.W. graduates may be obtained from the Office of Admissions and Student Services, School of Social Work.

**Information Meetings:** The School holds informational meetings every two weeks to introduce its undergraduate and graduate programs. Informational meetings for the Ph.D. Program are held monthly during the fall semester of each academic year. Potential applicants are encouraged to attend one of these meetings prior to applying. Meeting schedules for the B.S.W. and M.S.W. programs may be obtained by calling the School's Office of Admissions and Student Services (313-577-4409). Meeting schedules for the Ph.D. Program may be obtained by calling the Ph.D. Program Office (313-577-4419). Meeting schedules for all programs are also posted on our website: <http://www.socialwork.wayne.edu/>

## SCHOOL OF SOCIAL WORK DIRECTORY

Telephone Area Code: 313

### DEAN

201 Thompson Home; Telephone: 577-4400; Fax: 577-6555

### ASSOCIATE DEAN

240 Thompson Home; Telephone: 577-4401; Fax: 577-8770

### GENERAL INFORMATION

105 Thompson Home; Telephone: 577-4409

### ADMISSIONS AND STUDENT SERVICES

105 Thompson Home; Telephone: 577-4409; Fax: 577-4266

### DEGREE PROGRAM COORDINATORS AND DIRECTORS

#### BACHELOR OF SOCIAL WORK

236 Thompson Home; Telephone: 577-4433

#### MASTER OF SOCIAL WORK

204 Thompson Home; Telephone: 577-4418

#### SOCIAL WORK Ph.D.

335 Thompson Home; Telephone: 577-4419

### FIELD EDUCATION COORDINATOR

144 Thompson Home; Telephone: 577-4479

### RESEARCH DIRECTOR

402 Thompson Home; Telephone: 577-4439

### GRADUATE CERTIFICATE PROGRAM COORDINATORS

#### ALCOHOL AND DRUG ABUSE STUDIES

136 Thompson Home

#### DEVELOPMENTAL DISABILITIES

4809 Woodward Ave; 577-2654

#### GERONTOLOGY

136 Thompson Home; Telephone: 577-4423

#### INFANT MENTAL HEALTH

Merrill Palmer Skillman Institute,  
71 E. Ferry; Telephone: 872-1790

#### SOCIAL WELFARE RESEARCH AND EVALUATION

337 Thompson Home; Telephone 577-4419

#### SOCIAL WORK PRACTICE WITH FAMILIES AND COUPLES

108 Thompson Home; Telephone 577-4409

### STUDENT ORGANIZATIONS

#### LATINO/LATINA SOCIAL WORKERS

32 Thompson Home

#### PHI ALPHA HONOR SOCIETY

32 Thompson Home

Mailing address for all offices: School of Social Work, Thompson Home, 4756 Cass, Wayne State University, Detroit, Michigan 48202.

Website: <http://www.socialwork.wayne.edu/>

# Faculty and Administration

*Interim Dean:* Cheryl E. Waites

*Associate Dean for Academic Affairs:* Jerrold R. Brandell

*Associate Dean for Research and Director of the Center*

*for SW Practice and Policy Research:* Joanne Sobeck

*B.S.W. Program Coordinator:* Cassandra Bowers

*M.S.W. Program Coordinator:* Kim Jaffee

*Ph.D. Program Director:* Arlene Weisz

*Assistant to the Dean:* Julie Alter-Kay

*Assistant to the Associate Dean:* Marilynn Knall

*Assistant Dean for Student Affairs:* Janet M. Joiner

*Academic Services Officer and B.S.W. Academic Advisor:*

Sharon Moore

*Administrative Officer:* Curtis Brahm

*Assistant to Administrative Officer:* Juanitta D. Hill

### *Professors*

Jerrold Brandell (Distinguished), Eileen Trzcinski, Cheryl Waites, Arlene Weisz

### *Associate Professors*

Kim Jaffee, Poco Kernsmith, Durrenda Onolemhemen, Joanne Sobeck

### *Assistant Professors*

Cassandra Bowers (Clinical), Angelique Day, Heather Edwards, Antonio Gonzalez-Prendes, Faith Hopp, Royce Hutson, Shawna Lee, Fayette Martin, Jamie Mitchell, Debra Patterson, Joanne Smith-Darden (Research), Shirley Thomas (Clinical)

### *Emeriti Professors*

Creigs Beverly, Leon W. Chestang (Distinguished), Betty Rusnack, Betty Welsh

### *Emeriti Associate Professors*

Ralph Abramowitz, Theodore Goldberg, Carl Hartman, Alice E. Lamont, Edna P. Miller, Sandy G. Reid, Mavis M. Spencer, Phyllis I. Vroom (Dean Emerita)

# Master of Social Work

The School offers full-time and planned part-time study programs leading to the Master of Social Work. This program prepares graduates for advanced professional practice in social work. The full-time degree program consists of four semesters of study in which field work is concurrent with class work. Students spend two full days a week in the field and two days in classes for two consecutive years. With approval of the graduate officer, students in the second year may elect to have three full days a week in the field. Required classes in the full-time program may be offered in day, evening, and Saturday sessions. Web-based online courses are also offered.

The planned part-time program permits students to complete degree requirements over a three-year or a four-year period. Part-time study is open only to students who have been formally admitted to the program by the Admissions Director. Details of the several phases of class and field work involved in this program, as well as specific information on admissions requirements, may be obtained from the Office of Admissions and Student Services, School of Social Work.

## ADMISSION

**Applications for admission** for full-time or planned part-time study in the program leading to the Master of Social Work may be submitted as early as one year in advance of the term in which the student wishes to enter the School. Applications are reviewed only when all supporting materials have been received. New students admitted into the foundation (core) year of the Master of Social Work program are enrolled in the Fall. Applications and all supporting materials for the full-time or part-time program beginning in the Fall should be submitted by the Priority Processing Date, October 1. Applications received after the Priority Processing Date will be processed in thirty to sixty days. Applications and all supporting materials for admission with advanced standing should be submitted by the October 1 Priority Processing Date. Applications received prior to this date will receive an application decision in thirty days or less. Those received after the Priority Processing Date will receive an application decision in thirty to sixty days.

Applicants to the full-time or part-time program leading to the Master of Social Work must: 1) complete the online application and payment of application fee. See: <http://www.gradadmissions.wayne.edu/apply.php>. All documentation is submitted online: submission of official transcripts (submit to the Office of Graduate Enrollment Services, Wayne State University, directly from their college or university, official transcripts of all credits previously earned, whether in one or several educational institutions), resume, personal interest statement, and three references; 2) hold a four year baccalaureate degree from an accredited institution; 3) have completed thirty semester credits in academic work distributed in the social, behavioral, and biological sciences, and in English and the humanities; 4) show evidence to the School of Social Work's Assistant Dean for Student Affairs of suitability and fitness for the profession and the ability to successfully undertake graduate professional education in social work. The School shall have the prerogative for deciding whether a student shall or shall not be admitted. An applicant who wishes a review of an admissions decision may obtain specific information on the review procedure from the Office of the Dean, School of Social Work. Admission is confirmed, contingent upon the applicant's receipt of a bachelor's degree and an earned minimum g.p.a. of at least 2.75; a g.p.a. of 3.0 or above is preferred.

Applications for admission to the School of Social Work for the program leading to the Master of Social Work are given careful review in order to select those students best able to fulfill the requirements for professional education in this field.

## Admission to the Advanced Standing Program

An applicant for admission to the Master of Social Work program who holds a baccalaureate degree from an undergraduate social work program accredited by the Council on Social Work Education may be admitted with advanced standing. The School shall have sole prerogative in deciding whether or not the student possessing such a baccalaureate degree from an accredited undergraduate social work program shall be admitted to the graduate program.

An applicant for admission to the program leading to the Master of Social Work who holds a baccalaureate degree from an undergraduate social work program accredited by the Canadian Association of Schools of Social Work (CASSW) may be admitted with advanced standing as an exception to the general rule that only graduates of undergraduate programs accredited by the Council on Social Work Education may be considered for admission.

**Applications** and all supporting materials for admission with advanced standing should be submitted by the application Priority Processing Date, October 1. Applications received prior to this date will receive an application decision in thirty days or less. Applications received after this date will be processed in thirty to sixty days.

Students admitted with advanced standing are required to complete eight graduate credits toward the M.S.W. during the summer term following admission, and subsequently an additional thirty credits in the advanced curriculum of the graduate program, as prescribed within the student's concentration. Students must complete the following summer curriculum before enrolling in courses in the advanced curriculum:

S W 7070 -- Social Work Practice with Micro, Mezzo and Macro Systems: Cr. 2

S W 7500 -- Human Behavior Theory for SW Assessment: Cr. 2

S W 7620 -- Social Welfare Policy: Cr.2

S W 7810 -- Using and Conducting Research in Social Work: Cr. 2

Total credits: 8

Students may waive one or more of these summer courses by successfully completing a waiver exam. Contact the Office of Admissions and Student Services for information.

Students admitted with advanced standing may be permitted to complete the requirements for the Master of Social Work on a part-time basis. Students admitted to such a planned part-time program are required to complete eight graduate credits toward the M.S.W. during the summer term immediately following admission. The additional thirty credits may be completed in subsequent semesters. The School does not grant credit for life experience or previous work experience.

## Transfer of Graduate Credits

Credits for professional social work courses earned at other graduate programs accredited by the Council on Social Work Education may be accepted toward the Master of Social Work degree. Students, however, must meet all of the specific course requirements or equivalencies in the program leading to the Master of Social Work at this school. A maximum of thirty credits may have been completed in another accredited school of social work. Transfer students must be in good standing in the school from which they transfer, must meet all other requirements of this school, earn a minimum of thirty credits at this school, and must be in residence during the final semester prior to graduation.

A maximum of eight graduate credits from the social work curriculum or from curricula closely related to social work earned in an accredited graduate program may be accepted toward the Master of Social Work if, in the judgment of the faculty, the credits are appropriate as elective credits in the social work curriculum.

Transfer credit must be of a 'B' grade or better and certified as graduate level credit on an official transcript. Courses approved for transfer from outside or within the University cannot have been applied as credit toward a prior degree. Extension credits earned at institutions outside the State of Michigan cannot be applied toward a graduate degree.

Transfer credits do not alter the residency policy and time limitations governing School of Social Work degrees. Students may petition for the transfer of graduate credit only after they have been admitted to the M.S.W. degree program.

## Nondiscrimination Policies

The School is bound by and actively endorses University policies 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 (see page 10 for these policies). 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.

## Withdrawal from the M.S.W. Program

A student who has been admitted to the Master of Social Work program shall be considered to have withdrawn from the program if the student is not enrolled in a course and/or field work during any semester of a planned program of study within the framework of the plan which has been approved. In order to withdraw in good standing, either permanently or temporarily, students must formalize their withdrawal with the Assistant Dean for Student Affairs. Under certain circumstances, with approval from the Coordinator, a student may be granted a leave of absence from the School. Copies of procedures for withdrawal or leaves of absence may be obtained from the Office of Admissions and Student Services, School of Social Work.

## Readmission

Students who had been enrolled in a planned program leading to the Master of Social Work, 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. Generally, students are required to complete two continuous terms of field work; readmitted students who had previously completed one term of field work will be required to repeat this term, and may be required to enroll concurrently in a course or courses in social work practice methods. Students who have withdrawn and wish to be readmitted may be required to obtain an assessment of their physical or mental health (or both) from a health professional approved and/or selected by the School.

## Admission to Non-Degree Study

Students may enroll in certain classes as pre-master's registrants and will be permitted to accumulate a maximum of twelve credits in this status. Pre-master's students may not enroll in the field work courses and certain other courses in which specific prerequisites and/or corequisites preclude their registration. If the student is subsequently admitted to a program leading to the Master of Social Work, credits earned in a pre-master's classification may be applied toward the degree.

Applicants for pre-master's, non-degree study must hold a baccalaureate degree from a college or university of recognized standing and have completed a minimum of thirty semester credits of academic work distributed in the social and biological sciences and in the humanities.

Applicants must complete the online application indicating non-degree status in the School of Social Work and payment of applica-

tion fee. See: <http://www.gradadmissions.wayne.edu/apply.php> indicating non-degree status in the School of Social Work.

Students applying for pre-master's study in the School of Social Work who have already been admitted and registered in the Graduate School of Wayne State University should consult the School of Social Work Office of Admissions and Student Services regarding the procedure for a change of college and/or status.

## DEGREE REQUIREMENTS

The Master of Social Work requires a minimum of sixty credits of graduate course work, completed in accordance with the regulations of the Graduate School and the School of Social Work; see pages 18-36 and 536, respectively. The program includes a foundation (core) curriculum at the first level, and at the second level, one of two concentrations: Interpersonal Practice or Innovation in Community, Policy and Leadership. The core curriculum provides the foundation for the advanced curriculum.

## Foundation (Core) Curriculum

The foundation (core) curriculum provides a knowledge base for later study of advanced practice in the concentration. The core curriculum has content in the five major curricular areas: social work practice, human behavior and the social environment, social welfare policy and services, research, and field education. The core curriculum stresses fundamentals and knowledge of social work practice as they relate to individuals, families, small groups, organizations, and communities. In field education, theory is translated into practice and includes experiences for students in Interpersonal Practice and Innovation in Community, Policy and Leadership.

- S W 7040 -- Methods of Social Work Practice: Cr. 3
- S W 7055 -- Foundation Group Theory and Practice: Cr. 3
- S W 7065 -- Foundation Macro Theory and Practice: Cr. 3
- S W 7560 -- Human Behavior in Social Env't. I: Micro Theory: Cr. 3
- S W 7660 -- Human Behavior in Social Env't. II: Diversity in Multicultural Soc.: Cr. 3
- S W 7720 -- Introduction to Social Welfare Policy in the United States: Cr. 3
- S W 7771 -- Field Work Seminar I: Cr. 0.5
- S W 7772 -- Field Work Seminar II: Cr. 0.5
- S W 7820 -- Research Methods in Social Work I: Cr. 3
- S W 7830 -- Research Methods in Social Work II: Cr. 3
- S W 7998 -- Concentration Field Work for Social Workers I: Cr. 8

Total credits: 33

During the foundation (core) year, students declare their interest in an advanced curriculum concentration. Students must complete the core curriculum before enrolling in advanced curriculum courses.

## Advanced Curriculum

The advanced curriculum builds on the knowledge, values, and skills gained in the foundation (core) curriculum, with the objective of increasing the student's competence for dealing with greater complexities of social work practice by focusing on areas of social concern. This advanced portion of the M.S.W. program is designed to provide specific advanced knowledge and practice skills. Students choose one of two concentrations in the advanced year.

### OPTION I Advanced Interpersonal Practice:

- Integrative HBSE/Practice Methods courses (see advisor): Cr. 8
- S W 8770 -- Advanced Policy Analysis: Cr. 3
- S W 8881 -- Field Work Seminar III: Cr. 0.5
- S W 8882 -- Field Work Seminar IV: Cr. 0.5
- S W 8998 -- Concentration Field Work for Social Workers II: Cr. 8
- Electives: Cr. Variable

Total credits: 27-30, depending on student's program

## OPTION II Advanced Innovation in Community, Policy and Leadership

Integrative HBSE/Practice Methods courses (see advisor): Cr. 4

Research Courses: Cr. 3

S W 8881 -- Field Work Seminar III (I-CPL section): Cr. 0.5

S W 8882 -- Field Work Seminar IV (I-CPL section): Cr. 0.5

S W 8998 -- Concentration Field Work for Social Workers II: Cr. 8

Electives: Cr. Variable

Total credits 27-30, depending on student's program

Students must meet the requirements for a concentration: (a) satisfactory completion of specific concentration courses in HBSE/Practice Methods; (b) satisfactory completion of a field education placement in the concentration for each of the semesters of the advanced curriculum.

**Interpersonal Practice (IP):** This concentration offers students a particular theoretical orientation and clinical method from among three theory "tracks": Family Systems, Cognitive-Behavioral, and Psychodynamic. Each track has a corresponding integrative practice methods and human behavior course incorporating content on clinical method and technique, developmental issues, and psychosocial pathology, and each is offered over two consecutive terms. Students select field placements in areas of their special interest: among these choices: families at risk, child welfare, substance abuse services, schools, mental health, health care, and gerontology.

**Innovation in Community, Policy and Leadership (I-CPL):** This concentration contextualizes student learning into three streams of practice including developing and sustaining effective communities, developing and sustaining effective policies and developing and sustaining effective organizations through leadership. I-CPL students will deepen their understanding of settings where this practice can take place through field placements which relate to urban social planning, community development, policy analysis and advocacy, program development and system coordination.

A full range of electives is offered to supplement the required sequence of courses in both advanced year concentrations, thus permitting students an opportunity to deepen and enrich their knowledge of particular areas of theory and practice.

## Social Work and Infant Mental Health Master's Dual Title Degree

Students in the master's program in Social Work can apply to earn a Dual Title Master's Degree in Social Work and Infant Mental Health (IMH). This dual title degree is designed to prepare Social Workers to support early social and emotional development especially in contexts in which parents or children suffer from developmental disabilities, physical health or mental health concerns. The dual title program offers many advantages to M.S.W. students whose goal is to work with very young children and their families. Students who earn an IMH dual-title degree and become practitioners are well positioned to be competitive in the job market, are prepared to work in cross-disciplinary teams, understand evidence-based treatments and their importance, and have a solid understanding of both research and clinical work with infants and families.

**Admission:** Applicants must meet the admissions standards of the Graduate School and the School of Social Work (see above). Applicants can indicate interest in the dual-title option on their initial online application. Current students can discuss their interest in the dual-title option with their faculty advisor prior to spring semester of their core year.

**Degree Requirements.** Students are required to complete 12-14 credits of IMH coursework. All students must complete and earn a 'B' or above in the following courses:

ELE 7025 -- Infant Mental Health: Theory to Practice in Early Childhood Cr. 2

NUR 7XXX -- Infant/Family Mental Health Assessment: Cr. 2

S W 7010 -- Infant Mental Health Practice: Cr. 2

PSY 7425 -- Psychology of Infant Behavior and Development: Cr. 3

PSY 7430 -- Development and Assessment of Infants and Toddlers: Cr. 3

S W 6991 -- Infant Mental Health Seminar: Cr. 1-4 (2 req.)

Master's students must also complete an IMH-related field placement in their second year. Advanced standing students must focus their year of fieldwork on an IMH-related placement.

## M.S.W. Academic Regulations

*For complete information regarding academic rules and regulations of the Graduate School, students should consult the section of this bulletin beginning on page 18. 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 policies and procedures, and fulfilling all course and degree requirements in proper sequence with satisfactory scholarship. The student should consult the Academic Services Officer or the M.S.W. Academic Advisor concerning any academic matter. Students should consult the Academic Services Officer or the M.S.W. Academic Advisor when developing a Plan of Work or selecting electives. The primary responsibility for counseling with the Academic Services Officer or Academic Advisor and for seeking information on policies, procedures, degree requirements, and all academic matters rests with the student.

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. Every effort is made to assist students whose work suffers as a result of conditions beyond their control such as personal illness, serious illness in the immediate family, or similar emergencies. The School's Policies and Procedures for Academic Termination and Reinstatement and Grade Appeals Procedures are available in the Office of the Dean and the Office of Admissions and Student Services.

## Degree Application

Application for the degree must be filed no later than the end of the fourth week of classes in the semester in which student expects to complete the requirements for the degree. Candidates must be recommended for the degree by the faculty. Candidates are requested and expected to attend the commencement at which the degree is conferred.

## Time Limitation

Students have a six-year time limit to complete requirements for the Master of Social Work. For further information, see Degree and Certificate Requirements, page 36.

## Attendance

Students are expected to attend all sessions of courses for which they are registered and to notify the instructor or the instructor's secretary prior to the class session, if possible, when the student may be absent due to illness or similar emergency. Each instructor may specify an attendance policy in the course syllabus, and announce it at the beginning of a course. Consistent or extended absences may jeopardize the student's grade in the course and, possibly, the student's enrollment in the School.



## Field Education

All students enrolled in S W 7998 and 8998, Field Work for Social Workers 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 Field Education Manual is posted on the School's website (<http://www.socialwork.wayne.edu/>) and may be downloaded and saved.

## Field Education Health Clearance 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.



# Graduate Certificate Programs

## Graduate Certificate in Alcohol and Drug Abuse Studies

The Wayne State University Certificate in Addiction, Alcohol and Drug Abuse Studies (CADAS) is designed to provide advanced students in education, health and human services with an integrated, learning experience that includes biological, psychological, social, cultural, and public health perspectives. The breadth and scope of the proposed program will allow students to accomplish their own specific objectives within a multidisciplinary context. The program attracts professionals currently working in social services, mental health, nursing, public health, education, and criminal justice who realize the need for the additional training and credentials. Adding the CADAS certificate to existing educational and /or work experience is likely to enhance an individual's career opportunities and options.

**Admission:** Applicants must meet the admissions standards of the Graduate School (see page 18) and the School of Social Work (see page 534). **Eligibility for admission to the Graduate Certificate is limited to those holding a graduate degree from an accredited educational institution or actively pursuing a graduate degree at Wayne State University.** There is a three-year time limit in which to meet certificate program requirements.

**Applications** are accepted throughout the year and students may begin the program during any semester. Application forms may be obtained by sending an email to the CADAS program advisor at [cadas\\_cert@lists.wayne.edu](mailto:cadas_cert@lists.wayne.edu) or by calling 313-577- 4409.

**Certificate Requirements:** Candidates must successfully complete twelve credits of approved courses for the CADAS program, including (in the order specified below) at least two introductory courses and two required courses.

During the personal interview the student and the advisor for the certificate program will develop the Plan of Work for coursework based on the student's background, areas of concentration, and career goals. Most students enroll in one or two courses per term. Courses are offered by departments throughout the University and most are offered at least once per year. Up to nine of the twelve credits may be applied to both the certificate and a graduate degree, subject to approval of the relevant academic department and the certificate program coordinator.

If the student has already completed a master's degree, the certificate is awarded when the student has met all the certificate requirements. If the student is earning the certificate concurrently with a master's degree, the certificate is awarded when all the requirements of the certificate and the degree have been met.

**INTRODUCTORY COURSES** (Offered all three terms. At least two of these need to be completed sequentially)

S W 6540 -- Effects of Drugs and Alcohol on Physical & Social Functioning: Cr.3

H E 5440 -- Mental Health and Substance Abuse: Cr.3

S W 5720 -- Social Services for Older Adults (ONLINE COURSE): Cr.3

**REQUIRED COURSES** (Offered only in the Fall Term)

PHC 6500 -- Drugs and the Addictive process: Cr.3

S W 8690 -- Interpersonal Practice in Substance Abuse: Cr.3

## Graduate Certificate in Disabilities

The Graduate Certificate in Disabilities prepares students to assume leadership positions as service providers, policy makers, administrators or educators. Students learn to plan creatively and to implement

activities that positively affect the lives of persons with disabilities. The program provides a useful educational experience to those committed to the full community inclusion of persons with disabilities. Course work reflects disability issues throughout the life-span and focuses specifically on disability issues in urban settings. The program is a collaborative effort of the Developmental Disabilities Institute (see page 49) and the following academic units: the Department of Audiology and Speech-Language Pathology and Department of Psychology, the College of Liberal Arts and Sciences; the College of Nursing; the Department of Occupational Therapy, Eugene Applebaum College of Pharmacy and Health Services; the vocational rehabilitation counseling program in the Theoretical and Behavioral Foundation division, and the special education program in the Teacher Education division, College of Education; and the School of Social Work.

**Admission:** Applicants must meet the admissions standards of the Graduate School (see page 18) and the School of Social Work (see page 534). Eligibility for the certificate is limited to persons possessing a master's degree from an accredited educational institution or persons actively enrolled in a graduate degree program at Wayne State University.

**CERTIFICATE REQUIREMENTS:** The graduate certificate in Disabilities program includes at least fifteen graduate credits taken in association with, or subsequent to, obtaining a master's degree. Ten credits are earned through completion of the three required courses and a minimum of five credits of electives. At least six credits must differ from the course requirements of the graduate degree being pursued concurrently. A master's degree within the student's discipline must be completed before the certificate is awarded. All course work must be completed in accordance with the academic procedures of the School of Social Work and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 536 and 32, respectively.

#### REQUIRED CERTIFICATE CURRICULUM:

- S W 6700 -- Disabilities in Urban Society: Special Topics: Cr. 3
- S W 6750 -- Practicum in Disabilities: Research Topics: Cr. 4
- S W 6740 -- Seminar in Disability Studies: Directed Study: Cr. 3

Courses include ten credits in core courses and a minimum of five elective credits. The electives allow students to specialize in a particular area of practice or research, as well as in a particular age range of people with disabilities. At least six credits must differ from the course requirements of the graduate degree being pursued concurrently.

## Graduate Certificate in Social Work Practice with Families and Couples

The Social Work Practice with Families and Couples Certificate Program is designed to provide current knowledge and skills for social work practice in the Detroit metropolitan area. Research and practice innovations also will be explored. Historically, social workers have worked with families affected by social injustice and adverse conditions; this is a legacy of the profession. These families encounter difficult problems, fueled by issues such as poverty, racism, substance abuse, and domestic violence.

**Admission:** Applicants must meet the admissions standards of the Graduate School (see page 18) and the School of Social Work (see page 534). Eligibility for this certificate is limited to persons holding a Master of Social Work (M.S.W.) degree or persons actively enrolled in the advanced portion of the M.S.W. program.<sup>1</sup> For students concurrently enrolled in the degree and certificate programs, only nine of

the fourteen graduate credits required for the certificate may be applied toward the M.S.W. Work to complete a graduate certificate program extends beyond the time necessary to fulfill Master of Social Work requirements. Application materials and information may be obtained from the Office of Admissions and Student Services, School of Social Work.

**Certificate Requirements:** Candidates for the certificate must hold a Master of Social Work degree, achieve a minimum grade point average of 3.0, and complete fourteen credits as outlined below in designated graduate courses. These courses include offerings in social work theory, social work practice, and social work ethics. The certificate must be earned within three years of entering the program. All course work must be completed in accordance with the regulations of the Graduate School and the School of Social Work; see the sections of this bulletin beginning on pages 32 and 536.

#### THEORY COURSES

- S W 8540 -- Family Theory: Cr. 2
- S W 8550 -- Social Functioning: Human Sexuality: Cr. 2
- S W 8780 -- Advanced Theories of Diverse Families: Cr. 2

#### PRACTICE COURSES

- S W 8610 -- Advanced Interpersonal Practice with Families: Cr. 2
- S W 8620 -- Interpersonal Practice with Couples: Cr. 2
- S W 8790 -- Advanced Practice with Diverse Families: Cr. 2

#### ETHICS COURSE

- S W 8710 -- Ethical Issues in Interpersonal Practice: Cr. 2

## Graduate Certificate in Gerontology

The Graduate Certificate Program in Gerontology is designed to prepare graduate students, individual practitioners, and professionals to work in the field of aging in a variety of settings, by integrating gerontology into the student's primary discipline. The field of gerontology is multi-disciplinary, drawing on the best science and practice applications from a number of areas including biology, psychology, sociology, social work, health, and economics. Gerontology applies this knowledge to increase the understanding of aging and older adults and to meet the needs of the rapidly growing aging population. This field focuses not only on well older adults living independently within the community but on the problems of frail and/or institutionalized elders. Adding the gerontology certificate to existing educational and/or work experience is likely to enhance an individual's career opportunities and options.

**Admission:** Applicants must meet the admissions standards of the Graduate School (see page 18) and the School of Social Work (see page 534). Eligibility for admission to the Graduate Certificate is limited to those holding a graduate degree from an accredited educational institution or actively pursuing a graduate degree at Wayne State University. There is a three-year time limit in which to meet certificate program requirements.

**Certificate Requirements:** Candidates must successfully complete twelve credits of approved courses for the gerontology graduate certificate. Coursework consists of one core course, the Introduction to Gerontology (S W 7995), and nine additional credits in three other categories. During the personal interview the student and the advisor for the certificate program will develop the *Plan of Work* for coursework based on the student's background, areas of concentration, and career goals. Most students enroll in one or two courses per term. Courses are offered by departments throughout the University and most are offered once per year. Up to nine of the twelve credits may be applied to both the certificate and a graduate degree, subject to approval of the relevant academic department and the certificate program coordinator. All coursework must be completed in accordance with the academic procedures of the School of Social Work and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 536 and 32, respectively.

1. Individuals holding a master's degree in a related human service field may be permitted to enroll in some graduate certificate courses with the approval of the Graduate Officer, School of Social Work; these individuals may not apply for the graduate certificate.

If the student has already completed a master's degree, the certificate is awarded when the student has met all the certificate requirements. If the student is earning the certificate concurrently with a master's degree, the certificate is awarded when all the requirements of the certificate and the degree have been met.

## REQUIRED COURSES

ONE Course from EACH Category below must be chosen:

### CATEGORY I: Seminar in Gerontology (Required)

S W 7995 -- Introduction to Gerontology (ONLINE COURSE): Cr. 3

### CATEGORY II: The Aging Individual: Psychological Aspects, Human Development and Expression

COM 6171 -- Human Communication and Aging: Cr. 3  
ENG 5480 -- African Am. Lit.: Black Detroit: Stories of Old Timers: Cr. 3  
PSY 7480 -- Psychological Development in the Adult Years: Cr. 3  
PSY 7490 -- Developmental Psychology of Later Life: Cr. 3  
SOC 7020 -- (NUR 7515) End-of-Life Issues (ANT 7430)(LIS 7635): Cr. 3

### CATEGORY III: Aging in the Social, Political and Economic Context

ANT 5410 -- Anthropology of Age: Cr. 3  
P S 7430 -- Health Care Policy in the United States: Cr. 3  
P S 7440 -- Public Policy and the Aged: Cr. 3  
SOC 5760 -- Society and Aging: Cr. 3  
S W 5720 -- Social Services for Older Adults (online course): Cr. 3

### CATEGORY IV: Aging Health, Biology, and Physiology

BIO 7750 -- Biology of Aging: Cr. 3  
ECE 6100 -- Enabling Technology (BME 6500, OT 6620): Cr. 3-4  
FPH 7240 -- Epidemiology: Cr. 3  
FPH 7370 -- Health, Disease, and Aging: Cr. 3  
NUR 7415 -- Physical and Psychosocial Issues in Aging (online course): Cr. 3

## Graduate Certificate in Social Welfare Research and Evaluation

The certificate program in Social Welfare Research and Evaluation is designed to provide students with advanced research and evaluation skills necessary to assess the outcomes and efficacy of programs, services and interventions offered by social service organizations. In an era of increasing accountability, students will be equipped with the tools to engage in evidence-based practice and evaluation research at the micro, mezzo, and macro levels of practice.

**Admission:** Applicants must meet the admissions standards of the Graduate School (see page 18) and the School of Social Work (see page 534). Eligibility for this certificate is limited to persons holding a master's degree in social work, counseling or a related human services field and who have two or more years of post-master's professional experience in social work or a related human services field. Both full-time and part-time students will be permitted to enroll in the certificate program. Application materials and information may be obtained from the Ph.D. Program Office, School of Social Work.

**Certificate Requirements:** Candidates for the certificate must achieve a minimum grade point average of 3.0 and complete eighteen credits as outlined below in designated advanced graduate courses. These courses include offerings in social work theory, advanced statistics and research methods. Further, students will complete an applied research practicum. The certificate must be completed within three years of entering the program. All course work must be completed in accordance with the academic procedures of the School of Social Work and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 536 and 32, respectively.

## REQUIRED COURSES (Eighteen Credits)

Three credits of theory for practice and research:

S W 9230 -- Theories for Research and Practice with Communities and Organizations: Cr. 3

Six credits of statistics:

S W 9100 -- Social Statistics and Data Analysis: Cr. 3  
S W 9300 -- Applied Regression & Generalized Linear Models: Cr. 3

Six credits of research methods in social work, with specific content and training related to evidence-based practice research:

S W 9400 -- Qualitative Research Methods in Social Work: Cr. 3  
S W 9410 -- Quantitative Research Methods in Social Work: Cr. 3

Three credits of a social work applied research practicum with specific content and training related to evidence-based practice research. This course will be structured so students can complete their practicum in an agency setting (e.g., work with one of the school's Strategic Partnership agency partners or work with data from student's place of employment)

S W 9420 -- Research Practicum: Cr. 3

Graduation from the certificate program will require a minimum g.p.a. of 3.0. In consonance with the grading policy of the Graduate School, a grade of 'B' minus or below is considered unsatisfactory. The School will place a limitation on the number of 'B' minus grades that students may receive, even if they maintain an overall g.p.a. of 3.0. Students receiving two grades of 'B' minus will be terminated from the program. All students must have a *Plan of Work* that is developed upon admission. Progress toward certificate completion will be chronicled in the student's annual review.



# Doctor of Philosophy

The School offers full-time and part-time study programs leading to the Doctor of Philosophy (Ph.D.) degree. The doctoral curriculum is intended to provide social work educators with rigorous training in social work theory and research methodology to address contemporary issues associated with social work practice or social welfare policy at all levels. In addition, the doctoral program offers students the option of enrolling in a clinical scholarship track. The clinical scholarship track is designed to prepare graduates for important careers in clinical social work teaching, scholarship and research, as well as for leadership positions in the greater clinical social work community. A minimum of ninety credits beyond the foundation year of the M.S.W. are required for graduation.

## Admission Requirements

All applicants must meet the admissions standards of the Graduate School (see page 18) and the School of Social Work (see page 534). The doctoral degree in social work indicates not merely superior knowledge of the discipline but also intellectual initiative and the ability to design and conduct independent research and evaluation of social work practice and/or social welfare policy. Students in pre-candidacy will be evaluated on the basis of these attributes as well as on their grade-point performance. The doctoral program is open only to highly qualified students and all applications for admission to the program must have the approval of the School's Doctoral Program Committee.

### DOCTORAL PROGRAM ADMISSION REQUIREMENTS

In addition to the requirements for admission to the Graduate School, it is strongly preferred that candidates have:

- 1. Grade Point Average:** A minimum undergraduate and graduate grade point average of 3.5 (on a 4.0 scale)
- 2. Prior Degree:** An M.S.W. degree from a CSWE accredited institution. Applicants not having an M.S.W. must complete the M.S.W. degree while working towards the Ph.D.)
- 3. Practice Experience:** Two years post B.S.W. or post M.S.W. social work practice experience
- 4. Graduate Record Examination:** A combined score of 1000 or higher on the Verbal and Quantitative components of the Graduate Record Examination. The GRE needs to have been taken within the last three years.
- 5. English Proficiency:** For students where English is a second language, applicants to the Ph.D. Program must have a score of 550 or higher (paper-based test), 213 or higher (computer-based test), 79 or higher (internet-based test) on the TOEFL.
- 6. References:** Applicants should submit three references (instructions provided) from social work faculty, researchers and/or practitioners holding the Ph.D. degree who will be asked to evaluate the applicant's scholarship and aptitude for research.
- 7. Statement of Professional Goals:** Applicants should write a brief statement (instructions provided) describing their motivation for doctoral study, career goals, potential research area and how that research interest is consistent with one or more of the research programs of the Doctoral Program faculty in the School of Social Work. In order to determine a potential fit of research interests with faculty research programs, applicants are encouraged to view faculty interests at at: <http://www.socialwork.wayne.edu>.
- 8. Scholarship:** Applicants should submit a Summary of Relevant Research and Professional Experience form (available at: <http://www.socialwork.wayne.edu> or in the Ph.D. School Office) as well as one example of scholarly writing (published or unpublished). The writing example should be selected to demonstrate the applicant's

ability to critique, synthesize, and make conclusions about key social work issues or problems.

**9. Interviews:** Complete an in-person interview with the Doctoral Program Committee for final consideration after the above requirements have been completed.

**10. Applications:** Applicants must submit the School of Social Work Application for Admission to the online Graduate Application, specifying that they are applying for fall admission to the Social Work Ph.D. Program.

**Application Deadline:** Completed application packets must be received by **December 19** prior to the fall term of desired admission.

Admission decisions are based upon all materials submitted and reflect careful consideration of the applicant's professional goals, research interests, and the resources of the School of Social Work. Although an applicant may meet all minimum requirements, admission may not be granted because of: 1) program space limitations, and/or 2) inadequate School resources relevant to the applicant's specific interests.

**Readmission:** Students who are inactive and desire readmission must submit a written request to the Director of the Doctoral Program of the School of Social Work, four months prior to the beginning of the semester for which they wish to register. Readmission decisions are based on recommendations of the Doctoral Program Committee and the Graduate School.

## Degree Requirements

Candidates for the Doctor of Philosophy must complete a minimum of ninety graduate credits beyond the core year of the M.S.W., thirty of which are earned through the dissertation. The thirty-credit dissertation registration requirement is fulfilled by registering for S W 9991, 9992, 9993 and 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively) in consecutive academic year semesters upon attaining doctoral candidate status (see below). All course work must be completed in accordance with the academic procedures of the School of Social Work and the Graduate School governing graduate scholarship and degrees; see sections beginning on pages 536 and 32, respectively.

**Plan of Work:** Doctoral students structure their course work in terms of an area of specialization within the discipline of social work. Early in his/her program the doctoral applicant, with the assistance of his/her academic advisor, plans a sequence of studies. The Plan of Work, approved by the academic advisor and the Ph.D. Program Director, should be filed by the end of the first month in the program. Petitions for the Transfer of Credits should be attached to the Plan of Work. It is the responsibility of the student to file any changes in the Plan of Work with the doctoral program.

**Annual Review:** Student progress toward degree completion will be monitored annually by the Steering Committee and Director of the Doctoral Program.

**Residency:** The Ph.D. requirement of one year of residence is met by completion of six graduate credits in course work (not dissertation) over two successive semesters.

**Candidacy:** Admission to candidacy for the doctoral degree will usually require two years of full-time graduate study beyond the M.S.W. It is granted upon fulfillment of the following requirements:

1. Completion of School and Graduate School residence and course requirements.
2. Filing of an approved Plan of Work with the Graduate School.
3. Completion of all research methods and statistics requirements.
4. Completion of the qualifying examination.
5. Selection of the dissertation advisor and committee

**Qualifying Examinations** must be applied for following completion of all of the required social work courses in the doctoral curriculum. The Qualifying Examination requires of students critical analysis of the state of research, practice, and knowledge in their substantive and cognate areas, and for the reflective presentation of innovations in perspectives, theory, knowledge, and research design, methods and strategies that will advance social work practice and/or policy. By the end of the qualifying examination process students will be well grounded in their substantive areas of research and demonstrate an independent and original perspective regarding inquiry into social work practice. The subject of the Qualifying Examination is selected in consultation with the Doctoral Program Steering Committee.

**Approval of Dissertation Prospectus:** The candidate is required to prepare a Dissertation Prospectus and have it approved by the Doctoral Program Committee prior to beginning work on the dissertation. The Prospectus and Committee form must be submitted to and approved by the Graduate School.

**Submission of Dissertation:** The candidate is required to submit a doctoral dissertation on a topic satisfactory to his/her Dissertation Committee, designed to demonstrate proficiency in social work analysis, a capacity for independent and creative research, and the ability to perfect and follow through on an appropriate research or evaluation design.

**Dissertation Defense:** Upon completion of the dissertation, the candidate is required to make a public presentation of his/her research. The Dissertation Public Lecture-Defense form (Part I) must be completed by the candidate and the Dissertation Committee indicating readiness for public presentation of the candidate's research and dissertation. This form must be submitted to the Graduate School at least two weeks prior to the date of the defense. The Dissertation Public Lecture-Defense includes the public lecture and defense where the candidate presents the results of the dissertation research with the audience and the dissertation committee, a private meeting between the dissertation candidate and the committee, and the evaluation by the dissertation committee whereby it is determined whether the candidate has passed the dissertation defense. Upon completion of this process, the Dissertation Public Lecture-Defense form is returned to the Graduate School with the recommendations of the Dissertation Committee.

**Time Limitations:** Students have a seven year time limit to complete all requirements for the Ph.D. The seven-year period begins with the end of the semester during which the student is admitted to doctoral study and commences working toward meeting requirements for the degree.

### *Doctoral Program Curriculum*

**Social Work Transfer Courses:** (up to twenty-three advanced year M.S.W. or post-M.S.W. certificate credits relevant to the student's proposed area of research) approved by the Director of the Doctoral Program.

#### THEORY (9 credits)

- S W 9210 – Theories for Practice & Research with Individuals: Cr. 3
- S W 9220 – Theories for Practice & Research with Groups & Families: Cr. 3
- S W 9230 – Theories for Practice & Research with Communities & Orgns.: Cr. 3

#### RESEARCH AND STATISTICS COURSES (16 credits)

- S W 9100 – Social Statistics and Data Analysis: Cr. 3
- S W 9300 – Applied Regression Analysis & Generalized Linear Models: Cr. 3
- S W 9400 – Qualitative Research Methods in Social Work: Cr. 3
- S W 9410 – Quantitative Research Methods in Social Work: Cr. 3
- S W 9420 – Research Practicum: Cr. 3
- S W 9430 – Dissertation Seminar: Cr. 1

#### CLINICAL SCHOLARSHIP WORK TRACK COURSES (13 credits)

- S W 9500 -- Advanced Clinical Social Work Theory: Cr. 3
- S W 9510 -- Applied Clinical Social Work Practice I: Cr. 3
- S W 9520 -- Applied Clinical Social Work Practice II: Cr. 3

- S W 9550 -- Advanced Clinical Practicum I: Cr. 2
- S W 9560 -- Advanced Clinical Practicum II: Cr. 2

#### SOCIAL WORK ELECTIVE (3 credits)

- S W 9000 – Directed Study: Doctoral: Cr. 2-6 (Max. 6)
- S W 9240 – Social Work Education: Cr. 3
- S W 9250 – Philosophical Foundations for the Science of Social Work: Cr. 3

**Cognate Courses (8 credits):** Courses other than Social Work that support the candidate's area of research.

### Full-Time Program

Full-time students complete the degree requirements in four years. During the first two years of the program, students receive advanced training in social work theory, statistics and research methodology. Students in the research track also complete at least nine credits of coursework in a cognate discipline (e.g., psychology, sociology, education, health, gerontology) associated with their area of research. Students will complete their Comprehensive Qualifying Examination after they complete the relevant coursework. During the third and fourth years of the program, students will complete a one-credit Dissertation Seminar, any remaining elective courses and all of their dissertation credits.

### Part-Time Program

The part-time study program is designed to permit students to complete degree requirements over an extended period of time. The part-time option makes it possible for students to work or engage in other activities during much of the time they are enrolled, and complete all degree requirements within a five-year period.

All required courses in social work and the student's cognate area are completed within the first three years of the program. In Year three, students will take the Research Practicum (S W 9420) in the Fall Semester, and they will complete their Comprehensive Qualifying Examination after completing the relevant coursework. During the fourth and fifth years of the program, students will complete a one-credit Dissertation Seminar, any remaining elective courses and all of their dissertation credits.

### Elective Coursework

In addition to the required coursework identified above, all students will be required to complete twenty-three credits in elective courses. Students may be eligible to transfer up to twenty-three M.S.W./post-M.S.W. credits of coursework. Courses that may be eligible for transfer include those taken during the Advanced Year of the M.S.W. program and/or post-master's certificate program that are relevant to the student's proposed area of research. Transfer credit must be approved by the Director of the Doctoral Program.

### Social Work and Infant Mental Health Doctoral Dual Title Degree

The School also offers a Ph.D. Dual Title degree in Social Work and Infant Mental Health (IMH). The dual title degree requires coursework additional to the conventional social work doctoral program as outlined above: twelve credits that focus on the social emotional capacities of young children birth to five years and in the primary relationships that support these capacities. IMH expertise thereby gained should be reflected in a substantive research paper and a dissertation that addresses IMH issues and concepts. Students' studies and scholarly productions will be mentored by Social Work faculty members as well as IMH faculty members from other University schools and colleges.

## GRADUATE COURSES (S W)

The following courses, numbered 5000-9999, are offered for graduate credit. Courses numbered 5000-6999 that are offered for undergraduate credit only may be found in the undergraduate bulletin, as well as all other undergraduate courses (numbered 0900-4999). Courses in the following list numbered 5000-6999 may be taken for undergraduate credit unless specifically restricted to graduate students as indicated by individual course limitations. It is the responsibility of graduate students taking 5000-6999 level courses for credit accrual to a graduate degree to inform the instructor of their status, and to assume that graduate level course work will be expected of them. For interpretation of numbering system, signs and abbreviations, see page 652.

### **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. (Y)

### **5755 Introduction to Child Welfare. Cr. 2**

Issues related to children and youth in care, or those in need of protection from abusive and/or neglectful caretakers. Information on legal processes. (Y)

### **6010 (ELE 6010) Family Centered Collaboration in Early Childhood Intervention and Special Education. (O T 6150) (PSY 6010) 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. (F)

### **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. (W)

### **6510 Social Work and the Black Community. (AFS 6510) Cr. 3**

Policy and practice issues for social work assessment and intervention within the black community, including education and health care. (I)

### **6535 Juvenile Delinquency: Social Functioning. Cr. 2-4**

Causes of juvenile delinquency from an ecological perspective; assessment of delinquents and their environment as basis for social work intervention. (I)

### **6540 Effects of Drugs and Alcohol on Physical and Social Functioning. Cr. 3**

Prereq: senior or graduate standing. 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. (T)

### **6550 Social Work Issues in the Work Place. Cr. 2**

The nature and causes of occupational stress and other work-related behavior; existing and needed social work services in work settings, union programs, and community social agencies. (I)

### **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. (F)

### **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. (Y)

### **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. (Y)

### **6991 Special Topics in Social Work. Cr. 1-4**

Topics of current interest to be announced in Schedule of Classes. (F,W)

### **7010 Infant Mental Health Practice. Cr. 1-2**

Prereq: graduate standing. Intervention strategies to enhance normal infant development as an aspect of parenting skills. (W)

### **7040 Methods of Social Work Practice. Cr. 3**

Coreq: S W 7998. 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. (F)

### **7055 Foundation Group Theory and Practice. Cr. 3**

Prereq: S W 7040; coreq: S W 7998. 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. (W)

### **7065 Foundation Macro Theory and Practice. Cr. 3**

Prereq: S W 7040; coreq: S W 7998. 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. (W)

### **7070 Social Work Practice with Micro, Mezzo and Macro Systems. Cr. 2**

Prereq: B.S.W. degree and admission to a planned degree program in School of Social Work; coreq: S W 7500. Integrative summer bridge for advanced standing students. Practice principles guiding social work intervention at the micro, mezzo, and macro level; impact of diversity and unique concerns of populations at risk. (S)

### **7085 Social Work Leadership Strategies: Guiding Outcomes, Organizations, Institutions and Communities Cr. 3**

Leadership theories, applications and skill development. Emphasis on affecting greater positive social change through lens of professional social work, using cultural competence, empowerment and self-reflection. Leadership styles, leading change, communication and negotiation, team building, collaboration, ethics and values, critical thinking and networking tools are presented.

### **7500 Human Behavior Theory for Social Work Assessment. Cr. 2**

Prereq: B.S.W. degree and admission to planned program in School of Social Work; coreq: S W 7070. Integrative summer bridge course for advanced standing students. Major micro, mezzo, and macro theories of human behavior; theoretical approaches that guide social work assessments. (S)

### **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. (F)

**7570 Psychosocial Functioning of Women. Cr. 3**

Ecological perspective on development, life crises, problems, dysfunction, and treatment issues for women. Knowledge presented to inform social work practice, policy and research regarding women. (I)

**7600 Advocacy in the Practice of Social Work. Cr. 3**

Prereq: S W 7055 or 7070 or M.S.W. degree; coreq: S W 7998 or M.S.W. degree, or consent of instructor. Advocacy in social work: history, ethics, models, personal and organizational issues; skill development in application organizationally in understanding and supporting individuals and evaluating outcomes. (I)

**7620 Advanced Standing Social Welfare Policy. Cr. 2**

Prereq: B.S.W. degree and admission to planned degree program in the School; coreq: S W 7810. Integrative summer bridge course that covers fundamental principles of social welfare policy. Students develop a deeper understanding of how policy impacts social services, the community, and vulnerable groups. (S)

**7660 Human Behavior in the Social Environment II: Diversity in a Multicultural Society. Cr. 3**

Prereq: admission to planned program in School of Social Work. 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. (W)

**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. (Y)

**7771 Field Work Seminar I. Cr. 0.5**

Coreq: S W 7998. Facilitation of student understanding of the learning experience through critical reflection on field and course work. (F)

**7772 Field Work Seminar II. Cr. 0.5**

Coreq: S W 7998. Facilitation of student understanding of the learning experience through critical reflection on field and course work. (W)

**7810 Using and Conducting Research in Social Work. Cr. 2**

Prereq: B.S.W. degree and admission to planned degree program in the School; coreq: S W 7620. Integrative summer bridge course for advanced standing students. Enhancement of ability to integrate research findings into evaluation of social work practice at the micro, mezzo, and macro levels. (S)

**7820 Research Methods in Social Work I. Cr. 3**

Open only to students admitted to a planned program in School of Social Work. First of two courses focused on basic concepts and methods of scientific inquiry as utilized in building knowledge for social work practice. (Y)

**7830 Research Methods in Social Work II. Cr. 3**

Prereq: S W 7820. 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. (Y)

**7990 Directed Study. Cr. 1-4 (Max. 4)**

Prereq: written consent of advisor and graduate officer. Individual direction in reading and research on selected topics. (T)

**7995 Introduction to Gerontology. Cr. 3**

Prereq: enrollment in Graduate Certificate in Gerontology program, or approved minor or concentration in gerontology, or consent of instructor. 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. (I)

**7998 Concentration Field Work for Social Workers I. Cr. 4-6 (Max. 10)**

Coreq: one course in a social work method. Offered for S, M and U marks only. Open only to M.S.W. students. 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. (T)

**7999 Master's Research Essay Direction. Cr. 1-3 (Max. 3)**

Coreq: S W 7830 or S W 7810. 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. (F,W)

**8015 Intervention/Program Planning. Cr. 3**

Prereq: S W 7065 or consent of instructor. Strategies and approaches to comprehensive program development within the context of community and organizational practice. Problem analysis, needs identification; intervention theory, logic, and planning; strategies for effectiveness-based evaluation, marketing tactics, and budget development (F)

**8025 Community Assessment and Evaluation. Cr. 1**

Prereq: S W 7065, S W 7820, S W 7830 or consent of instructor. Preparation of social workers to intervene into communities, institutions, neighborhoods, and other social groups by using empirically substantiated social science techniques. Using social justice-oriented, community-driven, data collection techniques, students conduct an assessment and/or evaluation of any given community.

**8035 Techniques of Quantitative Data Analysis. Cr. 1**

Prereq: S W 7820, S W 7830 or consent of instructor. Focus on advanced analytic techniques with quantitative data. Instruction will lean towards social advocacy framed within social work values and ethics. Use of advanced statistical procedures in Excel and SPSS and the proper interpretation of findings.

**8045 Techniques of Data Interpretation and Presentation. Cr. 1**

Prereq: S W 7820, S W 7830 or consent of instructor. Focus on 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. Presentations include: web-based presentations, fact sheets, policy briefs, policy reports, and figures/charts/mapping.

**8055 Program Evaluation and Social Action Research. Cr. 2**

Prereq: S W 7820, S W 7830 or consent of instructor. Introduces concepts, practices, and methodological approaches central to empowerment and action-oriented research. Overview of ideological demands, barriers and constraints of this perspective are addressed. Strategies and skills are employed in the community.

**8065 Advanced Systems Theories and Practice. Cr. 4**

Prereq: S W 7560, S W 7065 or S W 7070; coreq S W 8998. Applied systems approaches to achieve goals, explore planning, ensure fairness and social justice, and promote diversity. Strengths and limitations of systems, role and effect of policy, integrated systems of care

models and mechanisms and theories of innovative change for systems strategies are addressed. Service systems, including child welfare, mental health, juvenile justice, education, public health, substance abuse and the legal system will be analyzed.

**8070 Application of Practice Theories in Interpersonal Practice. Cr. 3**

Prereq: S W 7055 or 7070. Presentation and analysis of theoretical orientations guiding social work practice with individuals, families and groups. (I)

**8075 Theories and Practice of Community Building and Development. Cr. 4**

Prereq: S W 7065; coreq S W 8998. Best practices and theories on community development and engagement. Use of organizing techniques, developing linkages, enhancing participation and intervening to ensure effective delivery of services to communities; practices in international development, international NGO's, governmental development agencies, and the United Nations are included.

**8180 Social Services in the Schools. Cr. 3**

Prereq: advanced year graduate student or M.S.W. degree. 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. (Y)

**8200 Seminar for Field Instructors. Cr. 1-2**

Prereq: M.S.W. degree. Open only to current field instructors. Concepts related to field instruction: determining objectives, developing a contract and plan of work, use of resources and structured formats to enhance the educational process, and criteria and procedures for evaluation. Emphasis on the functions and responsibilities of the field instructor, and coordination of field and classroom teaching. (Y)

**8330 Psychosocial Assessment of Children and Youth. Cr. 3**

Prereq: S W 7055 or S W 7070 or M.S.W. degree. 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. (Y)

**8340 Application of Cognitive-Behavioral Theories to Interpersonal Practice I. Cr. 4**

Prereq: S W 7055 or S W 7070 or M.S.W. degree; coreq: S W 8998 or M.S.W. degree. 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. (F)

**8350 Application of Cognitive Behavioral Theories to Interpersonal Practice II. Cr. 4**

Prereq: S W 8340; coreq: S W 8998. 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. (W)

**8360 Application of Psychodynamic Theories to Interpersonal Practice I. Cr. 4**

Prereq: S W 7055 or 7070 or M.S.W. degree; coreq: S W 8998. 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. (F)

**8370 Application of Psychodynamic Theories to Interpersonal Practice II. Cr. 4**

Prereq: S W 8360. Continuation of S W 8360. Course offers a psychodynamic integrative framework for evaluation of children, adoles-

cents and adults; emphasis on the middle and termination phases of the clinical social work treatment process. Focus on work with vulnerable populations. (W)

**8540 Family Theory. Cr. 2**

Prereq: advanced year graduate student or S W 7055 or S W 7070 or M.S.W. degree; coreq: S W 8610 and S W 8998. Family theory as a background for learning family diagnosis and treatment. (T)

**8550 Social Functioning: Human Sexuality. Cr. 2**

Prereq: admission to planned program in School of Social Work, or M.S.W. degree. Human sexuality as it affects individuals in their relationships to others in terms of development, orientation and dysfunction. (T)

**8570 Dynamics and Intervention in Family Violence. Cr. 3**

Prereq: S W 7500 or 7560 or 7660 or M.S.W. degree. 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. (F)

**8580 Impact of Health and Disease on Social Functioning: Implications for Social Work Practice. Cr. 3**

Prereq: S W 7500 or 7055 or 7660 or M.S.W. degree. Study of biological, psychological, social, and environmental factors which influence health; social work interventions for at-risk populations in health care. (F)

**8600 Advanced Interpersonal Practice in Group Treatment. Cr. 2**

Prereq: S W 7055 or 7070 or M.S.W. degree. Creation and implementation of therapeutic group services; worker roles, group properties and development, and common challenges in group treatment. (I)

**8610 Advanced Interpersonal Practice with Families. Cr. 2**

Prereq: S W 7055 or 7070 or M.S.W. degree; coreq: S W 8998 or M.S.W. degree; and coreq: S W 8540. Application of interpersonal practice theories in working with families throughout life cycle of the 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 variety of settings. (Y)

**8620 Interpersonal Practice with Couples. Cr. 2**

Prereq: S W 7055 or 7070 or M.S.W. degree. 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. (Y)

**8650 Interpersonal Practice with Children. Cr. 3**

Prereq: S W 7055 or 7500 or M.S.W. degree. Current theories applied to practice methods and techniques with preschool and latency-age children and adolescents and their families. Communication, assessment and intervention skills explored. (I)

**8690 Interpersonal Practice in Substance Abuse. Cr. 3**

Prereq: S W 7055 or 7500 or M.S.W. degree or consent of instructor. 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. (Y)

**8710 Ethical Issues in Interpersonal Practice. Cr. 2**

Prereq: S W 7050 or S W 7070 or S W 7200. 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. (W,S)



**8720 Family, Children and Youth Services: Policy Analysis and Formulation. Cr. 3**

Prereq: S W 7050 or 7055 or 7070 or 7200. Components of social welfare program and policy analysis and formulation illustrated by content derived from the field of services for family, children and youth, including guardianship, family-based services, protective services, foster care, adoption, day care, school and youth employment, income security, and child advocacy at various system levels. (I)

**8740 Mental Health Services: Policy Analysis and Formulation. Cr. 3**

Prereq: S W 7050 or 7055 or 7070 or 7200. Components of social welfare program and policy analysis and formulation illustrated by content derived from the field of mental health services. (I)

**8770 Advanced Policy Analysis. Cr. 3**

Prereq: S W 7055 or S W 7070; and S W 7720 or S W 7620. Opportunity to conduct a policy analysis in an area of interest; e.g., welfare reform, corrections, homelessness, health, domestic violence. (T)

**8780 Advanced Theories of Diverse Families. Cr. 2**

Prereq: S W 8540 or MSW degree; coreq: S W 8790 and S W 8998. Examination of the major family therapy models and social work 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 sub-cultures). (Y)

**8790 Advanced Practice with Diverse Families. Cr. 2**

Prereq. or coreq: S W 8610 or MSW degree; coreq: S W 8780 and S W 8998. Advanced application of theories and conceptual frameworks for change to social work intervention with diverse family structures. (Y)

**8810 Evaluation of the Outcomes of Social Work Practice. Cr. 3**

Prereq: S W 7830 or admission to advanced standing in School of Social Work. No credit after former S W 8850, FPH 7850 or SOC 7850. Review and analysis of selected social work research studies to sharpen research utilization skills. (I)

**8860 Grief and Loss Issues in Social Work Practice. Cr. 3**

Prereq: S W 7055 or S W 7500 or M.S.W. degree. 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. (F,W)

**8865 Social Work Theory and Practice with Gay, Lesbian, Bisexual, and Transgendered People. Cr. 3**

Theories of human behavior as they relate to sexual orientation; practice strategies with gay, lesbian, bisexual and transgendered individuals. (I)

**8881 Field Work Seminar III. Cr. 0.5**

Coreq: S W 8998. Students in the Community, Policy and Leadership program should elect the I-CPL section. Facilitation of student understanding of the learning experience through critical reflection on field and course work. (F)

**8882 Field Work Seminar IV. Cr. 0.5**

Coreq: S W 8998. Students in the Community, Policy and Leadership program should elect the I-CPL section. Advanced application of assessment, intervention, evaluation, knowledge and skills required of advanced social work practitioners. (W)

**8991 Advanced Special Topics in Social Work. Cr. 1-4**

Prereq: S W 7050 or 7070 or M.S.W. degree. Topics of current interest for students in advanced year of M.S.W. program. Topics to be announced in Schedule of Classes. (T)

**8996 Group Project Research and Direction. Cr. 1-4 (4 req.)**

Prereq: S W 7830 or admission to advanced standing in School of Social Work. (T)

**8998 Concentration Field Work for Social Workers II. Cr. 4-6 (Max. 12)**

Coreq: one course in a social work method. Offered for S, M and U marks only. Open only to M.S.W. students. 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. (T)

**8999 Master's Thesis Research and Direction. Cr. 1-6 (6 req.)**

Prereq: S W 7830 or admission to advanced standing in School of Social Work. (T)

**9000 Directed Study: Doctoral. Cr. 2-6 (Max. 6)**

Open only to doctoral students. Prereq: consent of advisor and Ph.D. program director. Independent study under guidance of a faculty member. (T)

**9100 Social Statistics and Data Analysis. Cr. 3**

Prereq: consent of advisor; doctoral student; master's level statistics in social, behavioral, health sciences; doctoral student, or consent of advisor and doctoral director. 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. (Y)

**9210 Theories for Practice and Research with Individuals. Cr. 3**

Prereq: consent of advisor; doctoral student. 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. (Y)

**9220 Theories for Practice and Research with Groups and Families. Cr. 3**

Prereq: consent of advisor; doctoral student. Theories, models and perspectives guiding social work practice with families. (Y)

**9230 Theories for Practice and Research with Communities and Organizations. Cr. 3**

Prereq: consent of advisor; doctoral student. 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. (Y)

**9240 Social Work Education. Cr. 3**

Prereq: consent of advisor; doctoral student. 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. (B)

**9250 Philosophical Foundations for the Science of Social Work. Cr. 3**

Prereq: consent of advisor; doctoral student. Social work values, ethics, and scientific method as means to develop social work epistemology. Critical analysis of influence of research methods on knowledge development. Analysis of selected classics in social work knowledge; their contribution to theoretical foundations in social work, person-in-situation, ecosystem perspective and psycho-social focus in discipline. (Y)

**9260 Current and Historical Trends in U.S. Social Welfare Policy. Cr. 3**

Prereq: successful completion of graduate-level policy course in social work or related field. Critical analysis in order to understand policy contexts that frame contemporary social work problems and practice. (B)

**9300 Applied Regression Analysis and Generalized Linear Models. Cr. 3**

Prereq: written consent of Ph.D. program director; S W 9100 with grade of B or above. 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. (Y)

**9400 Qualitative Research Methods in Social Work. Cr. 3**

Prereq: consent of advisor; doctoral student. Examination of social work practice through case study, action research, and qualitative approaches to knowledge building. (Y)

**9410 Quantitative Research Methods in Social Work. Cr. 3**

Prereq: consent of advisor; doctoral student. 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. (Y)

**9420 Research Practicum. Cr. 3**

Prereq: consent of advisor; doctoral student. 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. (T)

**9430 Dissertation Seminar. Cr. 1**

Offered for S and U grades only. Prereq: candidate status; consent of Ph.D. program director. Development, presentation and critique of dissertation research questions, in context of social work practice or social welfare policy. (T)

**9500 Advanced Clinical Social Work Theory: Cr. 3**

Prereq: consent of advisor; doctoral student. The purpose of this course is to broaden and deepen participants' mastery of several theories of development, personality, behavior, and psychopathology that have contributed to social work's knowledge base across the decades and continue to inform clinical social work epistemology today.

**9510 Applied Clinical Social Work Practice I: Cr. 3**

Prereq: consent of advisor; doctoral student. 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 relational, technical, and ethical aspects of social work treatment and clinical supervision.

**9520 Applied Clinical Social Work Practice II: Cr. 3**

Prereq: consent of advisor; doctoral student. 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 relational, technical, and ethical aspects of social work treatment and clinical supervision.

**9550 Advanced Clinical Practicum I: Cr. 2**

Prereq: consent of advisor; doctoral student. The advanced clinical practicum, required of all Clinical Track students with less than five years' postgraduate supervised practice experience, affords students an opportunity for further development and refinement of their clinical knowledge and clinical research interests.

**9560 Advanced Clinical Practicum II: Cr. 2**

Prereq: consent of advisor; doctoral student. The advanced clinical practicum, required of all Clinical Track students with less than five years' postgraduate supervised practice experience, affords students an opportunity for further development and refinement of their clinical knowledge and clinical research interests.

**9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)**

Prereq: Consent of School of Social Work and approval by the Ph.D. Officer of the Graduate School. Offered for S and U grades only. Research in preparation for doctoral dissertation. (T)

**9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5**

Prereq: Ph.D. candidate in School of Social Work and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following advancement to Ph.D. candidacy. Offered for S and U grades only.

**9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5**

Prereq: S W 9991 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following S W 9991. Offered for S and U grades only.

**9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5**

Prereq: S W 9992 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following S W 9992. Offered for S and U grades only.

**9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5**

Prereq: S W 9993 and approval by the Ph.D. Officer of the Graduate School. Required in academic-year semester following S W 993. Offered for S and U grades only.

**9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0**

Prereq: Approval by the Ph.D. Officer of the Graduate School; completion of 30 credits in S W 9991- S W 9994. Offered for S and U grades only.

# Financial Aid

General sources of financial aid for graduate students may be found in the section on Graduate Financial Aid, beginning on page 26 of this bulletin.

Students should check the School website for current descriptions of scholarships and eligibility requirements: <http://www.social-work.wayne.edu>

Scholarships, fellowships and other financial aid options are available to social work students on a limited basis. The School expects students to utilize their own resources as much as possible to cover educational expenses, and financial aid through University resources should be considered as supplementary. For additional information, inquiries should be directed to the School of Social Work Office of Admissions and Student Services.

Applications for student aid are evaluated by the University Office of Student Financial Aid based on financial need as reflected in the information provided by the students and/or their families on the appropriate forms. All requests for applications should be sent to the Office of Student Financial Aid, Wayne State University. Information on Guaranteed Student Loans may be obtained by contacting that Office. Students seeking Graduate-Professional Scholarships should consult the Graduate School.

When financial aid is necessary, the School of Social Work will cooperate with the University Office of Student Financial Aid to develop the best possible student aid plan from the various scholarships, stipends, grants, or loans available. Such financial assistance will not be assigned or awarded until the student has confirmed his or her intention to enroll after being notified of admission. Some awards are administered directly by the School of Social Work Office of Admissions and Student Services, and a listing of scholarships currently available in the School of Social Work can be found on the web at: <http://socialwork.wayne.edu/current/scholarships.php>. Contact this office for specific information about the application process, forms, and deadlines. The following scholarships and awards apply to the School:

## Scholarships

Shawn A. Abraham Memorial Endowed Scholarship  
Art Antisdal Endowed Memorial Scholarship  
Carol Barron Memorial Endowed Scholarship  
Virginia Baumgartner Kind Endowed Scholarship  
Elizabeth N. Brehler Scholars Program  
Arnette Burwell Memorial Endowed Scholarship  
Emmie S. Chestang Memorial Scholarship  
Rachel I. Coleman Endowed Scholarship  
Dean's Scholars Program  
Patricia L. Dillick Memorial Endowed Scholarship  
Cecille Y. Dumbrigue and Shirley P. Thrasher Endowed Memorial Scholarship  
Annette Sniderman Freedman Endowed Scholarship  
Emmesia Mathews Frost and Kenneth M. Frost Scholarship Fund  
Allan and Harriett Gelfond Endowed Scholarship  
Fred and Freda Gentsch Scholarship  
Ted and Arlene Goldberg Annual Scholarship in Interpersonal Practice  
Annie Louise Pitts Handy Endowed Scholarship  
Joseph P. Hourihan Endowed Scholars Award

Shirley Doris Hupert Memorial Scholarship  
Evangeline Sheibley Hyett Endowed Scholarship Fund  
Rose Kaplan Endowed Scholarship  
Vernon Edward Keye Memorial Endowed Scholarship  
Alice E. Lamont Endowed Scholarship  
James W. Leigh Scholarship Fund  
Elizabeth and Reginald MacArthur Tribute Endowed Scholarship  
Eileen M. Maceroni Endowed Scholarship  
Maryann Mahaffey Endowed Scholarship  
Lois J. McOsker Memorial Endowed Scholarship Fund  
Edward J. Overstreet Endowed Scholarship  
Carolyn Purifoy Patrick-Wanzo Endowed Scholarship  
Donald J. Roberts Memorial Endowed Scholarship  
Harold and Carolyn Robison Memorial Scholarship  
School of Social Work Alumni Association Endowed Scholarship  
School of Social Work Scholarship  
School of Social Work Futures Endowment Fund  
Raymond Snowden, Ph.D., Endowed Memorial Scholarship  
Maldo Ellen Talick Memorial Scholarship  
Mary Turner Scholarship Fund  
Mavis M. Spencer Endowed Scholarship Fund  
Elizabeth Laverack White Endowed Scholarship  
Beryl Zlatkin Winkelman Endowed Scholarship Fund  
Ella Zwerdling Memorial Scholarship

# School Activities

## Student Organization

The Student Organization is a vital component of the programs of the School of Social Work. In existence since 1949, it is the voice of the students in matters regarding school and profession. It is involved with School issues as well as broader educational and social concerns. All students currently enrolled in undergraduate or graduate programs in the School of Social Work are members of the Student Organization. A student newspaper, monthly meetings, social and recreational activities, assistance in attendance at relevant conferences, and participation in the National Association of Social Workers are among student activities.

## Greater Detroit Association of Black Social Workers — Student Chapter

The Wayne State University School of Social Work student chapter of the Greater Detroit Association of Black Social Workers is identified as GDABSW-s. This student association involves itself in educational, research, and community service activities on a year-round basis. GDABSW-s assists black and African American students in making the adjustment to the School of Social Work and provides students with supportive educational services. GDABSW-s also works closely with its parent organization, the Greater Detroit Association of Black Social Workers (GDABSW) in sponsoring forums, luncheons, conventions, and fund raising events, as well as a schedule of social and leisure time activities.

## Bisexuals, Gays, Lesbians, and Allies in Social Work (BGLASW)

BGLASW supports the social, academic and advocacy concerns of gay, lesbian, transgender and bisexual students in the School of Social Work at WSU. Its goal is to educate and inspire others at the school, and throughout the university population regarding sensitivity and respect for people with different sexual orientations from their own.

## Student Organization for Latino/Latina Social Workers (S.O.L.A.S.W.)

The Student Organization for Latino/Latina Social Workers is the organization of students in the School who are interested in Latino/Hispanic affairs. The objectives of S.O.L.A.S.W. are to increase the number of Latino/Hispanic students and faculty in the School, to integrate the Latino/Hispanic experience into the School's programs and academic setting, to link the Latino/Hispanic community with the School, and to provide a Latino/Hispanic-related student forum in the University community. Membership in the S.O.L.A.S.W. is for students of Latino/Hispanic origin, but others with interest may join the group with affiliation status.

## Students for Community Social Work (SCSW)

SCSW is an organization comprised of students interested in enacting social change at the community level. SCSW seeks to enhance the education and practice skills of its members and other students and to engage in various community-building, rebuilding and revitalization efforts.

## International Social Work Organization (ISWO)

ISWO is a student organization dedicated to educating the School of Social Work and broader WSU community about international issues and the impact on populations at risk. ISWO achieves this goal by advancing awareness of cultural and ethnic diversity through the sponsorship of events and social activities aimed at integration and relationship building.

## Student Fitness and Wellness Organization (SFWO)

SFWO advocates the importance of health, wellness and fitness among social work students, faculty and staff. SFWO provides wellness/nutrition seminars, exercise opportunities, and information related to emotional and physical health. Meetings are held the third Thursday of each month at 3:00pm - 4:30pm at the Thompson Home.

## Special Interest Groups

Each year there are students with special interests who organize themselves into student activity groups around their interests, such as groups for technologically knowledgeable students, those interested in entrepreneurship and social enterprise, Jewish students, Christian students, Arab/Chaldean students, and students interested in social work practice in communities and social action and policy change.

## Alumni Association

The Alumni Association serves to enhance School and professional identification. To this end, the Association maintains a website (<http://www.socialwork.wayne.edu/alumniassoc.php>), sponsors forums that encourage professional development, conducts special activities in support of the work of the School, and promotes fellowship among alumni, faculty and students through its activities on campus and in Oakland and Macomb Counties. It also provides scholarships and financial support to the School through fund-raising efforts.

## Community Relations and Outreach

The School maintains vital linkages with the community through continuing education and professional development activities and a newsletter. Staff, faculty, and students participate in a wide range of community and professional associations.

# Field Education

The following agencies and persons are representative of those who have worked with members of the Faculty in field instruction during recent academic years:

ABIGAYLE MINISTRIES: Janet Carpenter  
ACCESS: Abdallah Boamediene  
ACTS 29 FELLOWSHIP: Sharon Buttry  
ADULT WELL-BEING SERVICES: Sara Gleicher  
ADVANTAGE COUNSELING & EDUCATIONAL SERVICES, INC.:  
Jerry Hosterman  
AFFIRMATIONS: Jon Fitzgerald  
AIDS COMMITTEE OF WINDSOR: Lori Baxter  
AIDS PARTNERSHIP OF MICHIGAN: Matthew Sweet  
ALGONAC COMMUNITY SCHOOLS: Lisa Maedel  
ALTERNATIVES FOR GIRLS: Anna Weaver  
ALZHEIMER SOCIETY OF WINDSOR & ESSEX COUNTY  
Judith Carter  
ALZHEIMER'S ASSOCIATION - GREATER MICHIGAN CHAPTER:  
Caitie Morgowicz  
AMERICAN INDIAN HEALTH: Joseph Webster  
AMERICAN RED CROSS: Jeff Hadwin  
ANCHOR BAY SCHOOL DISTRICT: Mark Patyi  
ANGEL CARE SERVICES, LLC: Kimberly Adams  
ANGELA HOSPICE: Rebecca DeRaud  
ANN ARBOR CENTER FOR INDEPENDENT LIVING:  
Carolyn Grawi  
ARAB-AMERICAN AND CHALDEAN COUNCIL: Hala Meram  
ARC OF DEARBORN/DEARBORN HEIGHTS, THE: Lisa Nygord  
ARC OF NORTHWEST WAYNE COUNTY, THE: Christine Lerchen  
ARC SERVICES OF MACOMB, INC.: Luanne DeGueisippe  
AREA AGENCY ON AGING 1B: Natalie Pearce  
BARBARA ANN KARMANOS CANCER INSTITUTE:  
Larmender Davis  
BAY ARENAC BEHAVIORAL HEALTH: David Garcia  
BAY COUNTY CHILD & SENIOR CITIZEN CENTER: Stacy McIntyre  
BAY COUNTY HEALTH DEPARTMENT: Marilyn Laurus  
BAY-ARENAC INTERMEDIATE SCHOOLS: Dawn Kanyo Roberson  
BEHAVIORAL CENTER OF AMERICA - STONE CREST CTR.:  
Carl Catanese  
BEHAVIORAL CENTER OF MICHIGAN: Melissa Koslowski  
BERKLEY SCHOOL DISTRICT: Dennis McDavid  
BETHANY CHRISTIAN SERVICES: Dawn Swanson  
BETHANY VILLA SENIOR APARTMENTS: Gladys Murphy  
BLACK FAMILY DEVELOPMENT, INC.: Kenyatta Stephens  
BLUE CROSS BLUE SHIELD OF MICHIGAN: Margie Goslin  
BLUE WATER CENTER FOR INDEPENDENT LIVING:  
Valorie Hudgens  
BOYS AND GIRLS REPUBLIC: Barbara McKenzie  
BRADFORD ACADEMY: Tammy Mays-Winfrey  
BRANDON SCHOOL DISTRICT: Erin Roddis  
BRIDGING COMMUNITIES INC.: Phyllis Edwards  
BRIGHTMOOR COMMUNITY CENTER: Peter Lisiacki  
BULIMIA ANOREXIA NERVOSA ASSOCIATION: Jenni Cammaert  
C.A.R.E.: Lisa Weingarden  
CANADIAN MENTAL HEALTH ASSOCIATION: Patricia Thomas  
CAPUCHIN SOUP KITCHEN: Denise Johnson  
CARE HOUSE: Cathy Gordon  
CARE HOUSE OF OAKLAND COUNTY: Diane Bedenbaugh  
CARE MATTERS: Wendy Hooker  
CAREFIRST COMMUNITY HEALTH SERVICES:  
Daisy Barlow-Smith  
CARROLLTON PUBLIC SCHOOLS: Susan Howard  
CATHOLIC CHARITIES: Heather Hale  
CATHOLIC SERVICES OF MACOMB: Lori Ruppel  
CATHOLIC SOCIAL SERVICES OF OAKLAND CO.:  
Brenda Romanchik  
CATHOLIC SOCIAL SERVICES OF OAKLAND CO. - PONTIAC:  
Peggy Akrigg  
CBC SERVICES, LLC: Celestine Brown  
CEI COMMUNITY MENTAL HEALTH: Stephanie Tighe  
CENTER FOR EXCEPTIONAL FAMILIES:  
Michelle O'Conner-Teklinski  
CESAR CHAVEZ ACADEMY HIGH SCHOOL: Sonia Ponce de Leon  
CHANGE IS POSSIBLE COUNSELING SERVICES, LLC:  
Cynthia Zitny  
CHELSEA COMMUNITY HOSPITAL: Douglas Dault  
CHILDHELP MICHIGAN: Ann Marie Lesniak  
CHILDREN AND YOUTH INITIATIVE INC., THE:  
Belinda Evans-Ebio  
CHILDREN'S CENTER, THE: Marjorie Ebejer  
CHILDREN'S HOSPITAL OF MICHIGAN: Karen Gall  
CHIPPEWA VALLEY SCHOOLS: Charlene McGunn  
CHRIST CHILD HOUSE (THE): Landon Hill  
CITIZENS FOR BETTER CARE: Ann Kraemer  
CITY CONNECT DETROIT INC.: Dierk Hall  
CITY OF SOUTHFIELD: Lisa Straske  
CITY OF SOUTHFIELD - HUMAN SERVICES: Harold Shriman  
CITY OF SOUTHFIELD-OLDER ADULT SOCIAL WORKER:  
Judith Ventura  
CLARKSTON COMMUNITY SCHOOLS: Shelly Robertson  
CLINTON COUNSELING CENTER: Rebecca Maffetone  
COMMON GROUND SANCTUARY: Barbara Broesamle  
COMMUNITY & HOME SUPPORTS, INC.: Sharon Lapidés  
COMMUNITY CARE SERVICES: Amy Lawson, Lynn Turk  
COMMUNITY HOUSING NETWORK, INC.: Jennifer Williams  
COMMUNITY PROGRAMS, INC.: Jo Calloway  
COMPREHENSIVE YOUTH SERVICES, INC.: Jane Reams,  
Sally Currie  
CONSORTIUM COLLEGE PREP HIGH SCHOOL: Rachael Hatcher  
CONSUMER SERVICES, INC.: Kathy Taylor

CORNELL CENTER: Jane Diehl  
CORPORATION FOR SUPPORTIVE HOUSING: Beverley Ebersold  
COUNCIL ON AGING, INC.: Mary Taylor  
COVENANT HOUSE MICHIGAN: Herb Johnson  
CROSSROADS FOR YOUTH: Chris Veihl  
CROSSROADS OF MICHIGAN: Nicole Harris  
DEARBORN PUBLIC SCHOOLS: Rola Bazzi-Gates,  
Angela Burley  
DEPARTMENT OF HUMAN SERVICES: Sylvia Brown Jones  
DEPARTMENT OF HUMAN SERVICES-MACOMB COUNTY:  
Karen Urquhart  
DEPARTMENT OF HUMAN SERVICES-WAYNE CO.:  
Oswaldo Rivera  
DEPARTMENT OF VETERANS AFFAIRS: Corey Buckley  
DETROIT AREA AGENCY ON AGING: Gale Simmons  
DETROIT BOARD OF EDUCATION: Kenneth Warren  
DETROIT CENTRAL CITY CMH, INC.: Henriette Warren,  
Sandra Ware  
DETROIT CITY COUNCIL: Saunteel Jenkins  
DETROIT HEALTH DEPARTMENT: Olivia Ramsey  
DETROIT URBAN LEAGUE, INC.: Cassandra Nelson-Pruitt  
DEVELOPMENT CENTERS, INC.: Christel Danna  
DMC-HARPER HOSPITAL: Barbara Presnell  
DOCTORS' HOSPITAL OF MICHIGAN: Frances Keyes  
DON BOSCO HALL: Lawrence Abner  
EAST CHINA SCHOOL DISTRICT: Linda Bruckner, Donna Galbraith  
EASTER SEALS: Catherine McQuade  
EASTWOOD CLINIC, ST. JOHN: Donald Healy, Daniel Grogan,  
Mariam Dowling  
ENNIS CENTER FOR CHILDREN: Gary Wend  
FAMILY AND CHILDREN'S SERVICES OF MIDLAND: Vicki Freer  
FIRST STEP: Ilene Hogan  
FISCHER & CARDAMONE, LLC: Laura Cardamone  
FITZGERALD SCHOOLS: Laurie Vesey  
FLINT COMMUNITY SCHOOL DISTRICT: Sam Dykstra  
FOREVER FAMILIES: Heidi Nicewander  
FOX RUN VILLAGE: Jan Bayer  
FRASER PUBLIC SCHOOLS: Susan Waid  
FRESENIUS MEDICAL CARE - CHESTERFIELD: Gina Sikon  
FRIENDSHIP HOUSE: Linnea Berg  
GARDEN CITY COMMUNITY COALITION: Susan Nicholas  
GENESSE COUNTY CMH: Kea Williams  
GEORGE WASHINGTON CARVER ACADEMY: Andrea Richardson  
GILDA'S CLUB METRO DETROIT: Michelle Warren  
GLENGARDA CHILD AND FAMILY SERVICES: Renee Gilliam  
GRAND BLANC COMMUNITY SCHOOLS: Sarah Hugo  
GRANDMONT ROSEDALE DEVELOPMENT CORP.:  
Cathy Marshall  
GREAT START COLLABORATIVE - WAYNE: Toni Hartke  
GUIDANCE CENTER, THE: Steven Genden  
HANDS ACROSS THE WATER: Kathleen Nelson  
HARBOR OAKS HOSPITAL: Becky Pitters  
HARPER WOODS PUBLIC SCHOOLS: Jessica Zann  
HAVENWYCK HOSPITAL: Carol Polly  
HAWTHORN CENTER: Betty Esters  
HAZEL PARK SCHOOLS: James Bellini  
HEARTLAND HEALTHCARE CENTER: Jill Sims  
HEARTLAND HOSPICE: Mary Parmentier  
HEGIRA PROGRAMS, INC.: Gale Chapman  
HENRY FORD BI-COUNTY HOSPITAL: Tracey Chartier  
HENRY FORD HEALTH SYSTEM: Kathy Ransome, Diana Tomazak,  
Kelly Warner  
HENRY FORD HOSPITAL: Jacqueline Roman  
HENRY FORD WYANDOTTE HOSPITAL: John Dubosh  
HOTEL DIEU GRACE HOSPITAL: Terry Kuhn, Nancy Hebert  
HURON VALLEY-SINAI HOSPITAL: Teri Sahn-Silver  
INKSTER PUBLIC SCHOOLS: Vicki Bohannon  
INNER DOOR CENTER: Beverly Price  
INSIGHT RECOVERY CENTER: Henry Tidwell  
INTEGRATIVE COUNSELING SERVICES: Sheila Gunter  
JEWISH FAMILY SERVICE: Erica Saum  
JEWISH SENIOR LIFE OF METROPOLITAN DETROIT:  
Judy Rosner  
JOHN D. DINGELL VA MEDICAL CENTER: Christina Hall  
JUDSON CENTER AUTISM CONNECTIONS: Sarah Bretz  
JUDSON CENTER, INC.: Gail Lincoln  
JVS SENIOR ADULT SERVICES: Peter Ostrow  
KADIMA: Nancy Stein  
KARMANOS CANCER CENTER: Kathleen Hardy  
LACASA: Elizabeth Stahl  
LAKE HOUSE, THE: Heidi Looney  
LAKERIDGE VILLAGE: David Ballenberger  
LAPEER REGIONAL MEDICAL CENTER: Steve Gerwolds  
LIGHTHOUSE PATH TEEN MOTHERS PROGRAM:  
Linda McAllister  
LINCOLN BEHAVIORAL SERVICES: Joy Kornspan  
LIVINGSTON FAMILY CENTER: Vickie Smith  
LUELLA HANNAN FOUNDATION: Cheryl Bukoff  
LUTHERAN CHILD & FAMILY SERVICES: William Scott Cole  
MACOMB FAMILY SERVICES: Robin Cronin  
MACOMB INTERMEDIATE SCHOOL DISTRICT:  
Elizabeth Andrzejewski  
MARINER'S INN: David Sampson  
MATRIX HUMAN SERVICES: Theresa Edwards  
MEDICAL SOCIAL WORK REHAB MANAGEMENT LLC: Dorothy  
Strong-Stokes  
MICHIGAN ROUNDTABLE FOR DIVERS: Steve Spreitzer  
MICHIGAN TECHNICAL ACADEMY: Charla Ross  
MID-MICHIGAN MEDICAL CENTER: Andrea Muladore  
MONROE CO. INTERMEDIATE SCHOOL DISTRICT: Betsy Taylor  
NATIONAL COUNCIL OF ALCOHOLISM & DRUG DEPENDENCE:  
Linda Woodward

NATIONAL COUNCIL OF ALCOHOLISM & DRUG DEPENDENCE, GDA: Benjamin Jones

NATIONAL COUNCIL ON ALCOHOLISM/LRA., INC.: Michelle LaVoy

NATIONAL KIDNEY FOUNDATION OF MICHIGAN, THE: Pamela Ross

NEIGHBORHOOD SERVICE ORGANIZATION: David Kozlowski

NEW CENTER COMMUNITY MENTAL HEALTH SERVICES: Marilyn Sanders

NEW HAVEN COMMUNITY SCHOOLS: Sandra Avery

N.O.A.H. PROJECT, THE: Amy Brown

NORSERV GROUP, LTD.: Jeffrey Fraser

NORTHEAST GUIDANCE CENTER: Sherry McRill

NORTHEAST GUIDANCE CENTER: Miguel Weeks

OAKLAND CO. FRIEND OF THE COURT: Lori Klein-Shapiro

OAKLAND COUNTY CHILDREN'S VILLAGE: Victoria Ofiara

OAKLAND COUNTY YOUTH ASSISTANCE: Margo Clarfelt

OAKLAND FAMILY SERVICES: Linda Caspary

OAKWOOD HOSPITAL: Ann Caulfield-Cook

OAKWOOD SOUTHSORE MEDICAL CENTER: Lulu Richards-Heller

OFF THE STREETS: Celia Thomas

ORCHARDS CHILDREN'S SERVICES: Trudy Fortino

OZONE HOUSE: Karyn Boyce

PONTIAC SCHOOL DISTRICT: Renee Maxwell

PORT HURON HOSPITAL: Michele Fox

POSITIVE IMAGES: Maisha Kenyatta

POWER INC.: Carol Burrell-Jackson

PROACTION BEHAVIORAL HEALTH ALLIANCE: Kenyetta Schumake

PROMISE VILLAGE: HOME FOR CHILDREN: Lloyd Dockham

PROVIDENCE CANCER INSTITUTE: Jennifer Gillette

QUALITY BEHAVIORAL HEALTH: Naveed Syed

REDFORD UNION SCHOOLS: Bryant Goulet

RENEWAL CHRISTIAN COUNSELING CENTER INC.: Steve Fair

RESTAURANT OPPORTUNITIES CENTER OF MICHIGAN: Minsu Longjaru

RICHMOND COMMUNITY SCHOOLS: Nancy Laratonda

ROCHESTER COMMUNITY SCHOOLS: Brandee Senecal

SACRED HEART REHABILITATION: Charlene Stier

SACRED HEART REHABILITATION CENTER: Rob Fetzer

SAGINAW COUNTY CMH: Nancy Erwin

SAGINAW PSYCHOLOGICAL SERVICES: Frances Erwin

SAGINAW PUBLIC SCHOOL DISTRICT: Lavarne White

SALVATION ARMY ADULT REHABILITATION CENTER: Joseph Cummings

SALVATION ARMY HARBOR-LIGHT MACOMB: Sharon Calhoun

SANILAC COUNTY COMMUNITY MENTAL HEALTH: Michele Vilas

SANILAC COUNTY INTERMEDIATE SCHOOL DISTRICT: Carla LeGere

SERVICES FOR OLDER CITIZENS: Sharon Maier

SEXUAL ASSAULT CRISIS CENTRE OF ESSEX CO.: Lydia Fiorini

SHAR, INC.: Dwight Vaughter

SINAI-GRACE HOSPITAL: Jennifer Tenorio

SOS COMMUNITY SERVICES: Faye Askew-King

SOUTH OAKLAND CITIZENS FOR THE HOMELESS: Roy Watson

SOUTHWEST COUNSELING SOLUTIONS: Roberta Walker

SPAULDING FOR CHILDREN: Jamie Bozarth

SPECTRUM CHILD AND FAMILY SERVICES: Jodi Luster

ST. CLAIR CO. CHILD ABUSE NEGLECT COUNCIL: Nancy Szezyngier

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# Signs and Abbreviations

## SUBJECT AREA CODES

**Subject area codes are two- or three-letter prefixes to the numbers used to identify courses offered by the University. The following index identifies the subject content of these codes and indicates the page number on which courses may be found.**

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## COURSE NUMBERING SYSTEMS

### — For the College of Education

- 5000-6999 — Undergraduate or graduate credit.  
 7000-8999 — Open to graduate students exclusively.  
 9000-9999 — Open to doctoral students exclusively.

### — For the Faculty of Pharmacy

- 6000-6999 — Undergraduate/Graduate Courses.  
 7000-8999 — Graduate Courses.  
 9000-9999 — Ph.D. Courses.

### — For all other Schools and Colleges

- 5000-6999 — Junior- and senior-level courses; also may be taken for graduate credit by students admitted to a graduate program, except where expressly prohibited.  
 7000-8999 — Open to graduate/professional students exclusively.  
 9000-9999 — Open to doctoral students exclusively.

## COURSE SYMBOLS and ABBREVIATIONS

**Course Offering Frequency:** Parenthetical letters at the end of course descriptions identify the term and frequency courses will be offered.

- (B) — Offered every other year.      (F) — Offered Fall Term  
 (I) — Offered irregularly              (S) — Offered Spring/Summer Term.  
 (T) — Offered every term.              (W) — Offered Winter Term.  
 (Y) — Offered at least once every academic year  
 (Fall or Winter, not Spring/Summer).

**Course Activity:** The following abbreviations used in some Courses of Instruction sections indicate the basic instructional mode (or modes) of certain courses. The number following the abbreviation indicates the number of clock hours per week assigned to that mode:

- |                  |                  |
|------------------|------------------|
| CLN — Clinic     | DSC — Discussion |
| FLD — Field      | IND — Individual |
| LAB — Laboratory | LCT — Lecture    |
| OTH — Other      | QUZ — Quiz       |
| SMR — Seminar    | STD — Studio     |
| T V — Television |                  |

- Cr. — Credit: The amount of credit indicated by the number or numbers following the abbreviation.  
 Max. — Maximum: Course may be re-elected to the maximum credit indicated  
 Prereq. — Prerequisite: Course must be preceded by the indicated course or courses or other requirements.  
 Coreq. — Corequisite: Course must be accompanied by the indicated course or courses.  
 Cross-listed courses — may be taken for major credit in more than one department, as indicated by cross-references which appear in parentheses either before or after the title. In registering for cross-listed courses, the student should be certain that he/she has designated the department and course number under which he/she wishes to earn the credit.

## Faculty Roster

- (FTA) — Full-Time Affiliate

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