



WAYNE STATE
UNIVERSITY

Graduate Bulletin
2017-2018

TABLE OF CONTENTS

Graduate Bulletin	8	Administration and Supervision (Education Specialist Certificate)	88
General Information	9	College and University Teaching (Graduate Certificate)	89
Academic Calendar 2017 - 2018	10	Educational Leadership (M.Ed.)	89
Academic Regulations	12	Educational Leadership and Policy Studies (Ed.D.)	89
Accreditation	15	Educational Leadership and Policy Studies (Ph.D.)	90
Administration of the University	16	Educational Technology (Bridge Graduate Certificate)	90
Admission: Graduate School	17	Educational Technology (State of Michigan Endorsement Recommendation)	90
Campus Life	20	Learning Design and Technology (Ed.D.)	90
Centers and Institutes	24	Learning Design and Technology (Education Specialist Certificate)	91
Computing and Information Technology Division (C&IT)	33	Learning Design and Technology (M.Ed.)	91
Degree and Certificate Requirements	34	Learning Design and Technology (Ph.D.)	92
Educational Outreach	40	Online Teaching (Bridge Graduate Certificate)	92
Financial Assistance	42	Online Teaching (Graduate Certificate)	92
Office of International Programs	45	Kinesiology, Health and Sport Studies	93
Records and Registration	51	Adapted Physical Education (Teaching Endorsement)	94
Student Academic Success Services	54	Health Education (M.Ed.)	94
Tuition and Fees	57	Kinesiology (M.Ed.)	95
University Libraries and Archives	62	Kinesiology (Ph.D.)	96
University Policies	63	Sports Administration (M.A.)	96
Mike Ilitch School of Business	67	Teacher Education	97
Academic Regulations for the Mike Ilitch School of Business	67	Art Education (M.Ed.)	99
Graduate Programs	69	Bilingual Education (Bridge Graduate Certificate)	100
Accounting (M.S.A.)	70	Career and Technical Education (M.Ed.)	100
Accounting (Post-Bachelor's Certificate)	71	Curriculum and Instruction (Ph.D. and Ed.D.)	100
AGRADE - Accelerated Graduate Enrollment	71	Early Childhood Education, Infant Mental Health Dual-Title (Ph.D. Program)	101
Business (Graduate Certificate)	72	Education Specialist Certificate	102
Business Administration (M.B.A. Program)	72	Elementary Education Major Leading K-8 Certification (M.A.T.)	102
Business Administration (Ph.D.)	76	English as a Second Language (Bridge Graduate Certificate)	104
Business Administration and Law (M.B.A./J.D. Joint Degree)	77	English Education (Secondary) (M.Ed.)	104
Information Systems Management (Post-Bachelor's Certificate)	78	Physical Education Pedagogy (M.A.T.)	104
Taxation (M.S.T. Program)	78	Reading (M.Ed.)	105
Faculty	79	Reading, Language and Literature (Ed.D.)	105
College of Education	82	Secondary Education Major (M.A.T.)	106
Academic Regulations for the College of Education	82	Special Education (Ph.D. and Ed.D.)	109
Master's Degrees	83	Teaching and Learning (M.Ed.)	109
Post-Bachelor's Teaching Certificate	84	Theoretical and Behavioral Foundations	110
Education Specialist Certificate	84	Advanced Studies in School Psychology (Graduate Certificate)	112
Doctoral Degrees	85	Applied Behavior Analysis (Graduate Certificate)	112
Academic Services	86	Counseling (Education Specialist Certificate)	113
Administrative and Organizational Studies	87		

Counseling (M.A.)	113	Mechanical Engineering (M.S.)	133
Counseling (M.Ed.)	113	Mechanical Engineering (Ph.D.)	133
Counseling Education (Ed.D. and Ph.D.)	113	Programs Offered by the College of Engineering	134
Counseling Psychology (M.A.)	114	Alternative Energy Technology (Graduate Certificate)	134
Educational Evaluation and Research (Ed.D. and Ph.D.)	114	Alternative Energy Technology (M.S.)	134
Educational Evaluation and Research (M.Ed.)	114	Electric-drive Vehicle Engineering (Graduate Certificate)	135
Educational Psychology (M.Ed.)	114	Electric-drive Vehicle Engineering (M.S.)	135
Educational Psychology (Ph.D.)	115	Sustainable Engineering (Graduate Certificate)	135
Rehabilitation Counseling and Community Inclusion (M.A.)	115	College of Fine, Performing and Communication Arts	136
.....	115	Academic Regulations for the College of Fine, Performing, and	
School and Community Psychology (M.A.)	115	Communication Arts	136
College of Engineering	117	Art and Art History	138
Academic Regulations for the College of Engineering	118	Art (M.A.)	138
Biomedical Engineering	120	Art (M.F.A.)	138
Biomedical Engineering (M.S.)	120	Art History (M.A.)	138
Biomedical Engineering (Ph.D.)	121	Communication	139
Biomedical Imaging (dual-title program)	122	Communication (M.A.)	139
Injury Biomechanics (Bridge Graduate Certificate)	122	Communication (Ph.D.)	142
Chemical Engineering and Materials Science	122	Communication and New Media (Graduate Certificate)	143
Chemical Engineering (M.S.)	123	Dispute Resolution (Graduate Certificate)	143
Chemical Engineering (Ph.D.)	123	Dispute Resolution (M.A./J.D.)	143
Materials Science and Engineering (M.S.)	124	Dispute Resolution (M.A.D.R.)	144
Materials Science and Engineering (Ph.D.)	124	Health Communication (Graduate Certificate)	144
Polymer Engineering (Graduate Certificate)	124	Music	145
Civil and Environmental Engineering	124	Music (M.A.)	145
Civil Engineering (M.S.)	124	Music (M.Mus.)	146
Civil Engineering (Ph.D.)	125	Orchestral Studies (Graduate Certificate)	148
Computer Science	125	Theatre and Dance	148
Computer Science (M.S.)	125	Arts Administration (M.A.)	148
Computer Science (Ph.D.)	126	Theatre (M.F.A.)	148
Electrical and Computer Engineering	128	Theatre and Dance (M.A.)	150
Computer Engineering (M.S.)	128	Law School	152
Computer Engineering (Ph.D.)	128	Law School Calendar 2016-18	152
Electrical Engineering (M.S.)	128	Law (J.D. Program)	155
Electrical Engineering (Ph.D.)	129	Admissions Policies and Procedures (J.D. Program)	157
Engineering Technology	129	Law (LL.M. Program)	158
Engineering Technology (M.S.)	129	Law Courses	159
Industrial and Systems Engineering	130	Faculty	176
Engineering Management (M.S.)	131	College of Liberal Arts and Sciences	178
Industrial Engineering (M.S.)	131	Academic Regulations for the College of Liberal Arts and Sciences	
Industrial Engineering (Ph.D.)	131	178
Manufacturing Engineering (M.S.)	132	Anthropology	180
Systems Engineering (Bridge Graduate Certificate)	132	Anthropology (M.A.)	180
Mechanical Engineering	133	Anthropology (Ph.D.)	181

Social Work/Anthropology SWAN (Ph.D.)	182	Linguistics (M.A.)	201
Biological Sciences	183	Mathematics	202
Biological Sciences (M.A.)	184	Applied Mathematics (M.A.)	202
Biological Sciences (M.S.)	184	Mathematical Statistics (M.A.)	203
Molecular Biotechnology (M.S.)	184	Mathematics (M.A.)	204
Biological Sciences (Ph.D.)	184	Mathematics (M.S.)	205
Chemistry	185	Mathematics (Ph.D.)	206
Chemistry (M.A. Program)	185	Nutrition and Food Science	207
Chemistry (M.S. Program)	186	Dietetics (Post Bachelor Certificate)	207
Chemistry (Ph.D. Program)	186	Nutrition and Food Science (M.A.)	207
Classical and Modern Languages, Literatures, and Cultures	187	Nutrition and Food Science (M.S.)	208
Classics (M.A.)	187	Nutrition and Food Science and Public Health (M.A./M.P.H. Joint Degree)	208
German (M.A.)	188	Nutrition and Food Science (Ph.D.)	209
Language Learning (M.A.)	188	Peace and Conflict Studies	209
Near Eastern Languages (M.A.)	189	Peace and Security Studies (Graduate Certificate)	209
Romance Languages (M.A.)	189	Philosophy	210
Modern Languages (Ph.D.)	190	Philosophy (M.A.)	210
Communication Sciences and Disorders	190	Philosophy (Ph.D.)	211
Speech-Language Pathology (M.A.)	191	Physics and Astronomy	211
Audiology (Au.D.)	191	Physics (M.A.)	211
Communication Sciences and Disorders (Ph.D.)	191	Physics (M.S.)	212
Criminal Justice	191	Physics (Ph.D.)	212
Criminal Justice (M.S.)	192	Political Science	213
Criminal Justice (J.D./M.S. Joint Degree)	193	Political Science (M.A.)	214
Economics	193	Political Science and Law (M.A./J.D. Joint Degree)	214
Economics (M.A.)	193	Public Administration (M.P.A.)	214
Economics (Ph.D.)	194	Political Science (Ph.D.)	215
Economics and Law (M.A./J.D. Joint Degree)	195	Psychology	216
Employment and Labor Relations	195	Industrial and Organizational Psychology (M.A.)	216
Employment and Labor Relations (M.A.)	195	Psychology (M.A.)	216
English	196	Psychology (Ph.D.)	216
English (M.A.)	196	Infant Mental Health (Ph.D. dual-title program)	218
English (Ph.D.)	196	Sociology	218
Geology	197	Sociology (M.A.)	218
Geology (M.S.)	197	Sociology (Ph.D.)	219
History	198	Urban Studies and Planning	222
History (M.A.)	198	Economic Development (Graduate Certificate)	222
History (M.A.P.H.)	199	Urban Planning (M.U.P.)	223
History (Ph.D.)	199	School of Library and Information Science	224
History and Law (M.A./J.D. Joint Degree)	200	MLIS Programs	225
History and Library and Information Sciences (M.A./M.L.I.S. Joint Degree)	200	Library and Information Science (M.L.I.S.)	225
World History (Bridge Graduate Certificate)	200	Library and Information Science and History (M.A./M.L.I.S. Joint Degree)	226
Linguistics	201		

Graduate Certificate Programs	226	Medical Research (M.S.)	248
Archival Administration (Graduate Certificate)	226	Molecular Genetics and Genomics	249
Information Management (Graduate Certificate)	227	Molecular Genetics and Genomics (M.S.)	249
Library and Information Science (Specialist Certificate)	228	Molecular Genetics and Genomics (Ph.D.)	249
Public Library Services to Children and Young Adults (Graduate Certificate)	229	Oncology	250
Faculty	229	Cancer Biology (M.S. and Ph.D.)	250
School of Medicine	230	Medical Physics (DMP)	251
Doctor of Medicine	231	Medical Physics (Graduate Certificate)	252
Medical School Calendar, 2016 - 2018	231	Medical Physics (M.S.)	252
Medicine (M.D. Program)	233	Medical Physics (Ph.D.)	252
Continuing Medical Education	235	Pathology	253
Clinical Sciences	237	Pathology (Ph.D.)	253
Anesthesiology	237	Pharmacology	253
Dermatology	237	Pharmacology (M.S. and Ph.D.)	254
Emergency Medicine	237	Physiology	255
Family Medicine and Public Health Sciences	237	Physiology (M.A. and Ph.D.)	255
Internal Medicine	238	Public Health Programs	256
Neurological Surgery	238	Public Health (M.P.H.)	256
Neurology	239	Public Health Practice (Graduate Certificate)	257
Obstetrics and Gynecology	239	Translational Neuroscience (Ph.D.)	257
Ophthalmology	239	College of Nursing	259
Orthopaedic Surgery	239	Academic Regulations for the College of Nursing	259
Otolaryngology, Head and Neck Surgery	240	Graduate Programs	260
Pediatrics	240	Nursing (M.S.N.)	260
Physical Medicine and Rehabilitation - DMC	240	Nursing (D.N.P.)	264
Physical Medicine and Rehabilitation- Oakwood	240	Nursing (Ph.D.)	266
Psychiatry and Behavioral Neurosciences	240	Nursing & Infant Mental Health (D.N.P. or Ph.D. Dual-Title)	268
Radiology	241	Graduate Certificates	269
Surgery	241	Adult Gerontology Nurse Practitioner Acute Care (Graduate Certificate)	269
Urology	241	Complementary Therapies in Healthcare (Graduate Certificate)	269
Graduate Programs of the School of Medicine	241	Nurse-Midwifery (Graduate Certificate)	270
Anatomy and Cell Biology	243	Nursing Education (Graduate Certificate)	270
Anatomy and Cell Biology (M.S. and Ph.D.)	243	Pediatric Nurse Practitioner Acute Care (Graduate Certificate)	270
Basic Medical Sciences (M.S.)	244	Pediatric Nurse Practitioner Primary Care (Graduate Certificate)	271
Biochemistry and Molecular Biology	245	Psychiatric Mental Health Nurse Practitioner (Graduate Certificate)	271
Biochemistry and Molecular Biology (M.S.)	245	Transcultural Nursing (Graduate Certificate)	271
Biochemistry and Molecular Biology (Ph.D.)	245	Women's Health Nurse Practitioner (Graduate Certificate)	272
Clinical and Translational Science (Bridge Graduate Certificate)	246	Faculty	272
Genetic Counseling (M.S.)	246	Eugene Applebaum College of Pharmacy and Health Sciences	274
Immunology and Microbiology	247	Academic Regulations	274
Immunology and Microbiology (M.S.)	247		
Immunology and Microbiology (Ph.D.)	247		

Nurse Anesthesia	277	ADR - Art: Drawing	329
Anesthesia (M.S.)	277	AED - Art Education	331
Pediatric Anesthesia (Graduate Certificate)	278	AET - Alternative Energy Technology	333
Occupational Therapy	279	AFA - Art: Design and Merchandising	334
Occupational Therapy (M.O.T.)	279	AFI - Art: Fibers	336
Pathologists' Assistant Program	280	AFS - African American Studies	337
Pathologists' Assistant (M.S.)	280	AGD - Art: Graphic Design	340
Pharmaceutical Sciences	281	AH - Art History	342
Pharmaceutical Sciences (M.S.)	282	AIA - Art: Interior Design	344
Pharmaceutical Sciences (Ph.D.)	283	AID - Art: Industrial Design	346
Pharmacy Practice	283	AME - Art: Metalsmithing	347
Pharmacy (Pharm.D.)	284	AN - Anesthesia	348
Pharmacy (Pharm.D. Research Scholars)	287	ANA - Anatomy and Cell Biology	350
Physical Therapy	290	ANT - Anthropology	351
Physical Therapy (D.P.T.)	290	APA - Art: Painting	356
Physician Assistant Studies	292	APH - Art: Photography	358
Physician Assistant Studies (M.S.)	292	APR - Art: Printmaking	359
Radiologist Assistant Studies	293	APX - Academic Pathway Excellence	361
Radiologist Assistant Studies (M.S.)	293	ARB - Arabic	362
School of Social Work	295	ARM - Armenian	363
Graduate Degree Programs	295	ASL - Art: Sculpture	364
Social Work (M.S.W.)	295	ASN - Asian Studies	365
Social Work (Ph.D.)	298	AST - Astronomy	366
Social Work & Anthropology (SWAN Ph.D.)	300	AUD - Audiology	367
Social Work & Gerontology (Ph.D. Dual-Title)	302	BA - Business Administration	369
Social Work & Infant Mental Health (M.S.W. or Ph.D. Dual-Title)	302	BBE - Bilingual/Bicultural Education	372
Graduate Certificate Programs	302	BE - Basic Engineering	373
Alcohol and Drug Abuse Studies (Graduate Certificate)	302	BIO - Biological Sciences	375
Disabilities (Graduate Certificate)	303	BLW - Business Law	381
Gerontology (Graduate Certificate)	303	BMB - Biochemistry and Molecular Biology	382
Social Welfare Research and Evaluation (Graduate Certificate)	304	BME - Biomedical Engineering	383
Social Work Practice with Families and Couples (Graduate Certificate)	304	BMS - Basic Medical Science	389
Field Education	305	CB - Cancer Biology	390
Faculty	308	CE - Civil Engineering	392
Programs A-Z	309	CED - Counselor Education	397
Courses A-Z	317	CHE - Chemical Engineering	399
ACC - Accounting	320	CHI - Chinese	403
ACO - Art: Core	324	CHM - Chemistry	404
ACR - Art: Ceramics	325	CLA - Classics	410
ACS - Art: Special Seminars	326	CLS - Clinical Laboratory Science	412
ADA - Art: Digital Art	327	CMT - Construction Management Technology	414
ADN - Art: Design	328	COM - Communication	415
		CRJ - Criminal Justice	424
		CSC - Computer Science	427

CTE - Career and Technical Education	433	IBS - Interdisciplinary Biomedical Sciences	530
DNC - Dance	435	IE - Industrial Engineering	531
DR - Dispute Resolution	439	IM - Immunology and Microbiology	537
DSA - Data Science and Analytics	440	ISM - Information Systems Management	538
DSB - Data Science for Business	441	ITA - Italian	541
DSE - Data Science for Engineering	442	JPN - Japanese Studies	543
ECE - Electrical and Computer Engineering	443	KHS - Kinesiology, Health and Sport Studies	544
ECO - Economics	449	KIN - Kinesiology	545
ED - Education	455	LAS - Latino/Latina and Latin American Studies	548
EDA - Educational Administration	456	LAT - Latin	549
EDP - Educational Psychology	458	LDT - Learning Design and Technology	550
EDS - Educational Sociology	462	LED - Language Education	554
EED - English Education	463	LEX - Law	555
EER - Educational Evaluation and Research	464	LFA - Life Fitness Activities	572
EET - Electrical/Electronic Engineering Technology	466	LGL - Language Learning	574
EGR - Engineering: Special Topics	467	LIN - Linguistics	575
EHP - Educational History and Philosophy	468	LIS - Library and Information Science	578
EI - Entrepreneurship and Innovation	469	MAE - Mathematics Education	582
ELE - Elementary Education	470	MAT - Mathematics	583
ELI - English Language Institute	472	MCT - Mechanical Engineering Technology	590
ELR - Employment and Labor Relations	475	MD - Medical Doctor	591
ENG - English	476	MD1 - Medical School: Year 1	592
EPS - Educational Leadership and Policy Studies	485	MD2 - Medical School: Year 2	593
ET - Engineering Technology	486	MD2 - Medical School: Year 3	594
ETT - Electrical Transportation Technology	488	MD4 - Medical School: Year 4	595
EVE - Electronic-drive Vehicle Engineering	489	MDR - Medical Research	607
FIN - Finance	491	ME - Mechanical Engineering	608
FPC - Fine Arts: Interdisciplinary	494	MED - Music Education	615
FPH - Family Public Health	495	MGG - Molecular Genetics and Genomics	616
FRE - French	497	MGT - Management	618
FYS - First Year Seminar	500	MIT - Manufacturing and Industrial Engineering Technology	621
GEL - Geology	501	MKT - Marketing	622
GER - German	503	MS - Mortuary Science	625
GKA - Greek: Ancient	506	MSE - Materials Science and Engineering	628
GKM - Greek: Modern	507	MUA - Music Ensembles and General Courses	629
GLS - Global Studies	508	MUH - Music History	633
GPH - Geography	509	MUP - Music Private Instruction	635
GS - Graduate School	510	MUT - Music Theory	650
GSC - Global Supply Chain Management	511	NE - Near Eastern Studies	653
GSW - Gender Sexuality and Women's Studies	514	NEN - Nanoengineering	655
HE- Health Education	516	NFS - Nutrition and Food Science	656
HEB - Hebrew	518	NUR - Nursing	660
HIS - History	519	OT - Occupational Therapy	668
HON - Honors	529	PAA - Pathologists' Assistant	671

PAS - Physician Assistant Studies	674	Faculty List Amendments	870
PCS - Peace and Conflict Studies	676	Index	871
PED - Pediatrics	677		
PH - Public Health	678		
PHA - Pharmacy	679		
PHC - Pharmacology	681		
PHI - Philosophy	682		
PHY - Physics	686		
POL - Polish	691		
PPR - Pharmacy Practice	693		
PS - Political Science	696		
PSC - Pharmaceutical Sciences	703		
PSL - Physiology	706		
PSY - Psychology	708		
PT - Physical Therapy	716		
PTH - Pathology	720		
PYC - Psychiatry	721		
RAS - Radiologist Assistant Studies	722		
RCI - Rehabilitation Counseling and Community Inclusion	723		
RDT - Radiologic Technology	724		
RLL - Reading, Language and Literature Education	726		
ROC - Radiation Oncology	728		
RT - Radiation Therapy Technology	730		
RUS - Russian	732		
SCE - Science Education	734		
SED - Special Education	735		
SLA - Slavic	737		
SLP - Speech and Language Pathology	738		
SOC - Sociology	741		
SPA - Spanish	745		
SSE - Social Studies Education	749		
STA - Statistics	750		
STE - Sustainable Engineering	751		
STS - Study Skills	752		
SW - Social Work	753		
SWA - Swahili	761		
SYE - Systems Engineering	762		
TED - Teacher Education	763		
THR - Theatre	765		
UGR - Undergraduate Research	776		
UKR - Ukrainian	777		
UP - Urban Planning	778		
US - Urban Studies	781		
Faculty A-Z	782		

GRADUATE BULLETIN

University Mission

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

Our vision

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

Our values

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

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

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

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

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

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

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

* The information included in the 2017-18 edition of the Graduate Bulletin has been derived from the approved, 2016-18 edition. Some courses and programs have been updated to reflect Fall 2017 effective terms.

GENERAL INFORMATION

Mission of the Graduate School

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.

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.

History and Procedures of the Graduate School

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.

History of the University

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

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

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

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

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

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

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

1924 — The College of Pharmacy was organized.

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

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

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

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

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

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

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

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

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

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

1959 – Monteith College was established.

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

1964 – The Division of Urban Extension was established.

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

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

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

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

1993 – The College of Science was established.

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

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

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

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

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

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

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

Location of the University Maps

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.

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

Academic Calendar 2017-2018

Fall Term: 2017

University Year	August 17, 2017
Appointments Begin ¹	
Priority Registration	March 27 - August 20, 2017
Open Registration	August 21 - August 29, 2017
Classes Begin	August 30, 2017
Late Registration, August 30 - September 6, 2017	Late Adds
Late Registration, September 7 - September 13, 2017	Late Adds, Instructor Approval Required
Holiday - University Closed	September 4, 2017
Last Day to Drop w/ Tuition Canceled (Census Date)	September 13, 2017
Early Assessment-Mid-Term Grading	September 13 - October 17, 2017
Degree Applications Due	September 29, 2017
Last Day to Withdraw	November 12, 2017
Holiday - No Classes	November 22, 2017
Holiday - University Closed	November 23 - November 25, 2017
Commencement	To Be Determined
Classes End	December 11, 2017
Study Day - Final Exams May Not Be Scheduled	December 12, 2017
Final Exams	December 13 - December 19, 2017
Holiday - University Closed	December 25, 2017 - January 1, 2018

Winter Term: 2018

Priority Registration	October 30 - December 31, 2017
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Open Registration	January 1 - January 7, 2018
Classes Begin	January 8, 2018
Late Registration, Late Adds	January 8 - January 14, 2018
Late Registration, Late Adds, Instructor Approval Required	January 15 - January 22, 2018
Holiday - University Closed	January 15, 2018
Last Day to Drop w/ Tuition Canceled (Census Date)	January 22, 2018
Early Assessment-Mid-Term Grading	January 22 - February 26, 2018
Degree Applications Due	February 9, 2018
Spring Break - No Classes	March 12 - March 17, 2018
Last Day to Withdraw	March 25, 2018
Classes End	April 23, 2018
Study Day - Final Exams May Not Be Scheduled	April 24, 2018
Final Exams	April 25 - May 1, 2018
Commencement	To Be Determined
University Year Appointments End ¹	May 15, 2018

Spring/Summer Term: 2018

Priority Registration	February 5 - May 6, 2018
Classes Begin	May 7, 2018
Late Registration	May 7 - May 20, 2018
Last Day to Drop w/ Tuition Canceled	May 20, 2018
Holiday - University Closed	May 28, 2018
Day Scheduled as a Monday ²	June 1, 2018
Degree Applications Due	June 8, 2018
Holiday - University Closed	July 4, 2018
Day Scheduled as a Wednesday ²	July 6, 2018
Census Date	July 3, 2018
Last Day to Withdraw	July 15, 2018
Classes End	July 27, 2018

Study Day - Final Exams May Not Be Scheduled	July 28, 2018
Final Exams	July 30 - August 2, 2018

Spring Term: 2018

Priority Registration	February 5 - May 6, 2018
Classes Begin	May 7, 2018
Late Registration	May 7 - May 13, 2018
Last Day to Drop w/ Tuition Canceled	May 13, 2018
Holiday - University Closed	May 28, 2018
Day Scheduled as a Monday ²	June 1, 2018
Degree Applications Due	June 8, 2018
Census Date	July 3, 2018
Last Day to Withdraw	June 10, 2018
Classes End	June 22, 2018
Study Day - Final Exams May Not Be Scheduled	June 23, 2018
Final Exams	June 25 - June 26, 2018

Summer Term: 2018

Priority Registraton	February 5 - June 26, 2018
Degree Applications Due	June 8, 2018
Classes Begin	June 27, 2018
Late Registration	June 27 - July 3, 2018
Last Day to Drop w/ Tuition Canceled	July 3, 2018
Holiday - University Closed	July 4, 2018
Day Scheduled as a Wednesday ²	July 6, 2018
Census Date	July 3, 2018
Last Day to Withdraw	August 1, 2018
Classes End	August 14, 2018
Study Day - Final Exams May Not Be Scheduled	August 15, 2018
Final Exams	August 16 - August 17, 2018

Administrative Dates for 2017-2018 Academic Year

Fall Term Begins	August 17, 2017
Fall Term Ends	December 31, 2017
Winter Term Begins	January 1, 2018
Winter Term Ends	May 15, 2018

Spring/Summer May 16, 2018

Term Begins

Spring/Summer August 16, 2018

Term Ends

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

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

Academic Regulations

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.

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.

Graduate 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.

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.

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.

Definition of Credits

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

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

Major and Minor Graduate Credits

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.

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.

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.

Auditing Courses

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

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

and Dean's approval must be included with the student's Drop/Add Form indicating the desired change.

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

Dual Enrollment

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

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

The University permits a student to pay undergraduate fees for the graduate courses elected in a Senior Rule status. It is recommended that students elect only courses numbered 5000-6999 in their Senior Rule semester.

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

Dual Registration at the University of Michigan

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

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

These are 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): WIC courses 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 courses 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 to the Instructional Process

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

Responsibilities of Faculty Members

1. To contribute to and remain abreast of the latest developments in their fields;
2. To continually pursue teaching excellence;
3. To treat all students with respect and fairness without regard to ancestry, race, color, religion, political belief, national origin, gender, sexual orientation, age, marital status, disability, or veteran status;
4. To encourage differing viewpoints and demonstrate integrity in evaluating their merit;
5. To attend regularly and punctually, adhere to the scheduled class and final examination times, and arrange for notification of absence and coverage of classes;
6. To establish and maintain appropriate office hours;
7. To present, early in the semester, the following course information:
 - a. course objectives and general outline;

- b. classroom procedures to be followed, expectations concerning class attendance, and proposed dates of major evaluations (including examinations, papers, and other projects);
 - c. grading policy;
 - d. where appropriate, a schedule of class-related activities, including class meetings and laboratory sessions;
 - e. lists of texts and/or other materials needed for the course;
 - f. late enrollment, withdrawal, and other special policies.
8. To provide and adhere, within reasonable limits, to the written syllabus of the course;
 9. To know course matter thoroughly and prepare and present the material conscientiously;
 10. To be informed of University services and recommend their use to students when advisable;
 11. To follow these policies concerning written work and grades:
 - a. grade and return written work promptly;
 - b. submit final grades by the scheduled time;
 - c. retain written materials not returned within the semester (e.g., final examinations, major term papers) for one academic semester in accordance with unit policy and allow students to examine such materials;
 12. To implement unit procedures for student evaluation of faculty teaching, with attention to preserving student anonymity;
 13. To behave appropriately in dealing with students so as to maintain a scholarly atmosphere

Responsibilities of Students

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

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

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.

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.

Student Code of Conduct

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

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

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

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

Grade Appeal Procedure

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

Academic Appeal Procedure

In matters where a College's signed final decision is based upon the evaluation of a student's academic performance, and when review procedures available to him/her within the College have been exhausted, the student may request the Provost to review that decision on the record. The college of record for doctoral students is the Graduate School since the Graduate School is responsible for oversight of doctoral academic processes and certifying doctoral degrees. 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.

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.

Fraud and Misuse of Documents

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

Accreditation

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

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

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

Mike Ilitch School of Business

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

Education

Art Therapy Program: *American Art Therapy Association*

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

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

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

Rehabilitation Counseling and Community Inclusion (graduate only): *Council on Rehabilitation Education (CORE)*

Teacher Education Programs: *Teacher Education Accreditation Council (TEAC)*

Engineering

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

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

Fine, Performing And Communication Arts

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

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

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

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

Law

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

Liberal Arts and Sciences

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

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

Communication Sciences and Disorders (Doctor of Audiology and M.A. in Speech Language Pathology 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): *Accreditation Council for Education in Nutrition and Dietetics*

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

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

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

Library and Information Science

MLIS: *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 (LCME), representing the American Medical Association and the Association of American Medical Colleges*

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

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

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

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

Nursing

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

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

Eugene Applebaum College of Pharmacy and Health Sciences

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

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

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

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

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

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

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

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

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

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

Social Work

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

Administration of the University

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

Mike Ilitch School of Business
College of Education
College of Engineering
College of Fine, Performing and Communication Arts
Irvin R. Reid Honors College
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.

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JERROLD BRANDELL, Ph.D., Interim Dean of the School of Social Work
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JERRY HERRON, Ph.D., Dean of the Irvin D. Reid Honors College
DAREN HUBBARD, M.B.A., Chief Information Officer and Vice President, Computing and Information Technology
CELESTE LEZUCH, M.S.A., Assistant Vice President for Academic Administration
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DAWN MEDLEY, Ed.S., Associate Vice President of Enrollment Management
MATHEW L. OUELLETT, Ed.D., Associate Provost and Director of Office for Teaching and Learning
WAYNE RASKIND, Ph.D., Dean of the College of Liberal Arts and Sciences
MATTHEW SEEGER, Ph.D., Dean of the College of Fine, Performing and Communication Arts
JACK SOBEL, M.D., Dean of the School of Medicine
R. DOUGLAS WHITMAN, Ph.D., Dean of the College of Education
SANDRA G. YEE, Ed.D., Dean of University Libraries and of the School of Library and Information Science

Admission: Graduate School

OFFICE OF GRADUATE ADMISSIONS
5057 Woodward, Suite 6305

Detroit MI 48202

Telephone: 313-577-4723; Fax: 313-577-0131

<http://wayne.edu/admissions/graduate>

Admission: Graduate

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

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

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

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

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

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

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

Admission: Qualified Graduate

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

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

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

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

Graduate Application Dates

The Office of Graduate Admission will make every effort to process applications in time for the semester of the student's choice. However, only complete applications received by the last recommended dates shown below are ensured academic review before the semester starts. Unless an application and all supporting materials are received by the date indicated, there may not be adequate time for the desired program to review the application and make the admission decision.

Fall Term — Classes begin Late August: **apply by June 1**

Winter Term — Classes begin Early January: **apply by October 1**

Spring Term — Classes begin Early May: **apply by February 1**

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

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

Change of Graduate Status

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

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

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

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

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

Graduate Non-Degree Admission

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

The applicant for a non-degree graduate classification is cautioned that *only one semester of full-time graduate study, or part-time registrations not to exceed nine credits, is normally permitted in this classification.* Beyond these limits, registration as a non-degree student requires the approval of the Graduate Officer of the student's College. Not more than nine credits, subject to the approval of the Graduate Officer, may be applied at a later date toward the residency and credit requirements for either the master's or Ph.D. degree. For the Ed.D. degree, credit earned beyond the nine-credit limitation will be reviewed by the appropriate Division and the Education Graduate Officer for possible application toward the degree.

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

Graduate Guest Admission

Graduate students actively pursuing degrees and who are in good standing at other accredited colleges and universities may be admitted to elect a limited number of credits at Wayne State University. Interested students may obtain a Graduate Guest Application (<http://wayne.edu/admissions/graduate/applying/app-instructions>) from the Graduate Admissions. This must be signed by their home institution before it can be accepted for consideration. **A guest admission is valid for only one semester and must be renewed with each subsequent registration.** A maximum of twelve semester credits may be earned as a Graduate Guest

Student. Admission as a Graduate Guest student does not constitute permission to register as a degree applicant.

Senior Rule

In their last undergraduate semester, Wayne State students with a 3.0 (or above) upper division grade point average have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements.

Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. A Senior Rule student must register for at least one credit which is required for the undergraduate degree in order to be eligible for this status. Students who have completed all required registrations for the baccalaureate may not obtain Senior Rule status. Completion of the *Application for Graduate Admission* is required, and students are advised to consult their advisors and the Office of Graduate Admissions. Application deadlines for Senior Rule admission are the same as for regular graduate admission. Students who qualify and are recommended by the Department or College will be admitted for one semester. Graduate admission will be regularized upon evidence that the student has completed all requirements for the bachelor's degree; it is the student's responsibility to provide this transcript.

As a courtesy, the University permits a student to pay undergraduate fees for the graduate courses elected in a Senior Rule status. It is recommended that students elect only courses numbered 5000-6999 in their Senior Rule semester.

AGRADE: Accelerated Graduate Enrollment

Several Colleges have established an accelerated combined undergraduate and graduate program (AGRADE) in which highly qualified seniors in the college may enroll simultaneously in some undergraduate and graduate programs of the College. A maximum of sixteen credits may be applied towards both undergraduate and graduate degrees in a student's major field if that program is an AGRADE participant. Those who elect the AGRADE program may expect to complete the Bachelor's and Master's degrees in five years of full-time study.

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

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

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

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

Permit to Register Status

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

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

Michigan Intercollegiate Graduate Studies (MIGS) Program

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

University of Windsor – WSU Exchange Program Agreement

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

Post-Bachelor Admission

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

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

undergraduate course requirements for graduate admission consideration.

The following special rules apply to Post-Bachelor Admission:

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

International Graduate Students

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

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

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

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

English Proficiency Requirements

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

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

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

Faculty Admission

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

Special Status Students

Visiting Doctoral Guest

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

Visiting Scholar

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

Campus Life

Dean of Students Office

301 Student Center; 313-577-1010

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

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

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

Student Organizations: There are over 400 recognized student organizations including such diverse categories as academic/professional, social action, political, sororities/fraternities, honoraries, ethnic and religious groups, as well as student governments. Student organizations use the Dean of Students Office to process their event planning and all students use the Dean of Students Office to learn about getting involved in campus life. The Office staff also assists students who want to organize new student groups. The staff also coordinates

various campus publications including the on-line newsletter Get Involved at Wayne. Student organizations can apply to the Student Activities Funding Board for funds to present events, pro-grams, and activities on-campus.

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

Parent and Family Services

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

Student Senate

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

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

Student Leadership Awards

The David D. Henry Award and the Howard A. Donnelly Award are given annually to the undergraduate man and woman at graduation who have been judged as having made the most outstanding contributions to the University in the areas of student activities, leadership and service. These contributions must be consistent with high scholarship during the recipient's entire undergraduate career.

The David D. Henry Award was established in 1948 to honor the third University President and recognizes students completing their studies in the Fall semester. The Howard A. Donnelly Award was established in 1927 at the request of Mr. Howard Donnelly, a friend of the University, through a grant provided in his name. The Donnelly Award recognizes students completing their studies in the Winter semester.

The winners of these awards are determined by a faculty selection committee comprised of academic representatives from within the University.

Office of Housing and Residential Life

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

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

Facilities and programs administered by this Office are located just steps away from classrooms, libraries, the Student Center, and the Recreation

and Fitness Center and combine the convenience and activity of the campus with the energy and pace of downtown urban living.

Ghafari Hall, Atchison Hall and the Towers Residential Suites all offer:

- Housing for freshmen, upperclassmen, and graduate students.
- Fully furnished rooms in a range of occupancies, all with private baths.
- Study rooms and social lounges on each floor.
- Wi-Fi throughout each building.
- Designated special interest floors.
- Live-in Community Directors and Student Resident Assistants.
- Free cable.
- Fully equipped laundry facilities.
- Staffed 24-hour front desk with OneCard access system.
- Food court style eateries including a vegetarian and Kosher dining facility.
- Academic and social programming.

Housing is also available in the University's campus apartments. The top six floors of DeRoy Apartments are furnished. Students must have at least a sophomore standing to live in these furnished spaces. The remaining floors in DeRoy, as well as Chatsworth and University Tower Apartments are unfurnished spaces. To be eligible to live in the unfurnished spaces students must be at least twenty-one or have junior standing.

Chatsworth, DeRoy and University Tower Apartments offer:

- Internet access with Wi-Fi in DeRoy and University Tower.
- Free cable.
- Fully equipped laundry facilities.
- Staffed 24-hour front desk with OneCard access system.
- Refrigerator and Stove.
- Ability to purchase a meal plan.
- Activity rooms available for resident use.
- 24 hr on-call emergency maintenance.
- Live-in Community Directors and Student Resident Assistants.
- Central air conditioning throughout DeRoy and University Tower.

For more information, current pricing, and application contact the Office of Housing and Residential Life at the Website: <http://www.housing.wayne.edu>

Athletics, Intramurals and Recreation

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

Wayne State University has a rich athletic tradition dating back to the fall of 1917 and recently celebrated ninety-nine years of singular outreach and academic success. The first Detroit Junior College athletic event (precursor of Wayne State University) was a basketball game against the Detroit College of Law on January 19, 1918. Since then WSU student-athletes have captured numerous honors, including national championships awarded by the NCAA and conference championships. In the past ten years, 301 WSU student-athletes have been recognized as All-American, the most in any decade. In the ninety-nine year history, 591 students have been so recognized. Sixty-three percent (63%) of the nearly 400-plus student-athletes currently involved in competitive athletics have a 3.00 or better grade point average. According to the latest federally mandated report, WSU student-athletes graduate at a seventy-six percent (76%) higher rate than the comparable campus population. The athletic department provides competitive opportunities in the following sports:

baseball, men's and women's basketball, men's and women's cross country, men's and women's fencing, football, men's and women's golf, softball, men's and women's swimming/diving, men's and women's tennis, volleyball, and women's indoor/outdoor track. Last season, seven out of seventeen programs competed in NCAA championships. In 2012, women's swimming and diving won the NCAA National Championship joining ten other programs to be so honored. The past fifteen years WSU Athletics has had its fifteen highest ratings in the annual NACDA Cup and in twelve of the past fourteen years finished in the top 12% of the 319 institutions in Division II. The NACDA ranks the top overall competitive intercollegiate athletic programs in the country.

The University competes in both the NCAA Division I (men's and women's fencing) and Division II levels with the other twelve University athletic programs competing in the Great Lakes Intercollegiate Athletic Conference (GLIAC). Members of the GLIAC are: Ashland University, Ferris State University, University of Findlay, Grand Valley State University, Hillsdale College, Lake Erie College, Lake Superior State University, Michigan Technological University, Northern Michigan University, Northwood University, Ohio Dominican University, Saginaw Valley State University, Tiffin University, and Walsh University.

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

The University offers a wide and varied program of recreational and intramural activities. The Matthaei Complex, and the surrounding athletic campus on forty-three acres of land, located on the west end of campus, offers a myriad of drop-in activity areas that include courts and fields for basketball, football, jogging, racquetball, soccer, squash, tennis, and volleyball, a weight training/exercise room, and swimming facilities. Use of these facilities is free with a current University ID or with a membership through the Mort Harris Recreation and Fitness Center. The recently built Multipurpose 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>.

Ticket and schedule information is available at the Athletic Office (<http://WSUathletics.com>), 101 Matthaei Building, 313-577-4280. All men's basketball and football games are broadcast on the Warrior Radio Network at WDTK-AM 1400 and FM 92.7 and are also available for free on the internet. Students are admitted free to all University-controlled WSU athletic events with a One Card.

Sports Facilities

Matthaei Building

Matthaei is normally open from 7:00 a.m. to 9:30 p.m., Monday through Friday; and is closed to recreation on Saturday and Sunday, during the fall, winter and spring/summer semesters. During the spring/summer semester the Building is open from 7:00 a.m. to 7:30 p.m., Monday through Friday. Outdoor tennis courts and track are available during posted hours. A facility schedule is published monthly. Operational hours are subject to change, and not all areas of the complex will be available at all times, due to scheduled classes, intramural activities and varsity athletics. Lap swim is available at the Matthaei for all affiliates and the lap hours are on the monthly recreation schedule, available online or hard copy at Matthaei. Locker and towel services are available for all affiliates daily with current OneCard at no charge. Locker rental plans both semester and yearly are also available. For charges and additional facility information, visit the Matthaei Shop in the Matthaei Building; or call 313-577-4260 or 577-4295.

Mort Harris Recreation and Fitness Center

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

Group Fitness Classes (non-credit)

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

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

Intramural Sports Programs: Men's, Women's and Co-Rec intramural sports leagues are available for all currently enrolled WSU students as well as WSU faculty/staff members of the facility. Leagues and tournaments are available in a variety of sports, including basketball, volleyball, dodgeball, flag football, soccer 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 (<http://www.rfc.wayne.edu>) to view the registration process and to become familiar with g.p.a., credit load, and insurance guidelines. All WSU Club Sports are fully funded by the participating students themselves.

Fitness and Wellness Programs: Fitness assessments, personal training, and group fitness programs for every level of fitness are available to all students and members.

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

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

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

Student Center Administration

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

Student Center Administration provides the following services for a fee: duplicating service, SMART and DDOT bus passes, fax service, and State

Hall locker rentals. In addition, Student Center Graphics, University Lost and Found, and the campus bulletin board posting service are located here.

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

Religious Organizations

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

Food Service Facilities

WSU has a variety of dining options. At the Student Center Building patrons will find the Panda Express, WingStop, Taco Bell, Starbucks, Mad Anthony's General Store, and a Bene Pizza GrilleWorks combo location in the lower level. Other quick favorites include Starbucks cafes (one on Anthony Wayne Drive and one in the Bookstore), Subway (In Towers Residential Suites), Jimmy John's, Einstein Bros. Bagels, Dunkin Donuts, and Freshii. Additional options include Al-Basha, LaPita Fresh, and Halftime Café (Mazurek Medical Education Commons). Students can use their OneCard at all of these vendors.

Students, faculty, staff or guests looking for delicious, healthy choices, can also go to one of Wayne State's two dining halls. Residential and commuter students, as well as faculty/staff, may purchase a meal plan, valid at Towers Cafe (in the Towers Residential Suites) offering all-you-care-to-eat breakfast, lunch and dinner. Towers Café stations include food ranging from the Mongolian grill, home-style favorites, international entrees, build your own deli sandwiches, hand crafted soups, an expansive salad bar, fresh-baked desserts and more. Gold 'n' Greens is another dining hall option, featuring a vegetarian menu offering and is also certified kosher dairy. Both dining options include entrees that are vegan, vegetarian and gluten-free. Patrons can use a meal plan, Warrior Dollars, pay with cash/credit or use their OneCard.

There are also restaurants located across the campus including a satellite cafeteria in Scott Hall where meal plans are accepted, mobile food vendors at various locations, and three POD Express convenience stores, which include snacks, beverages, and fresh salads and sandwiches in the Academic Administration Building, the Faculty Administration Building and the Undergraduate Library. There is also an Einstein Bros. Bagels Express at the Law School.

Retail Service Facilities

In addition to the wide range of dining options, the University offers a number of convenient services to make life easier, including banking and financial services to service and specialty shops, including:

- Bank of America - ATM
- Campus Health Center
- Comerica Bank - ATM
- Chase – Full Service Branch and ATMs
- Detroit Yoga Lab
- FedEx Office
- Flagstar Bank - ATM
- Fifth Third Bank – Full Service Branch and ATMs
- Higher One - ATMs
- Little Asia Mart Grocery and Convenience Store
- Michigan First Credit Union - Branch and ATMs
- Social Club Grooming Co.

- Sue's Convenience Store
- University Pharmacy
- WSU Bookstore
- Yoga Shelter - Midtown

Parking: Faculty, Staff, and Visitor

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

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

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

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

Campus Health Center

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

The Campus Health Center provides comprehensive health care services for students, including physical examinations, family planning, illness visits, and immunizations (including flu, meningitis, hepatitis B, etc.). Visits are by appointment, but walk-ins are accepted for students experiencing an illness. Counseling referral services are also available. All currently enrolled students receive one free office visit per semester. Additional visits are billed to student's health insurance with most health care plans accepted. Students without insurance have reduced fees based on a sliding scale and ability to pay for additional office visits per semester. Payment is accepted at the time of service by cash, OneCard, Visa, MasterCard, Discover, or American Express credit cards. To make an appointment, call 313-577-5041.

Police and Public Safety Services

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

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

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

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

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

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

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

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

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

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

Centers and Institutes

Barbara Ann Karmanos Cancer Institute

4100 John R Street, 2nd Floor, 313-576-8670, 1-800-527-6277; Fax: 313-576-8668

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

Email: bepler@med.wayne.edu

<http://www.karmanos.org>

The Barbara Ann Karmanos Cancer Institute is one of forty-five National Cancer Institute-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 drawn from a number of academic departments at Wayne State University and are Scientific Members of the Cancer Center. Students are trained in the biology of cancer at the molecular, cellular, and tissue levels, as well as in translational research and population studies of cancer. The focus of the training experience can be varied to suit individual student needs. It leads to the Doctor of Philosophy degree in Cancer Biology.

The Barbara Ann Karmanos Cancer Institute is a premier, nationally-recognized cancer research, treatment, education, and outreach center. It is also home to one of the eighteen national registries of the SEER (Surveillance, Epidemiology, End Result) programs. The current research programs are as follows:

- Molecular Imaging
- Molecular Therapeutics
- Population Sciences and Disparities
- Tumor Biology and Microenvironment

Bioengineering Center

818 W. Hancock, 2208 Bioengineering Center.;

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

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 and contact sports. 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 horizontal 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. In 2015, a split Hopkinson pressure bar system was added to measure highrate properties of biological materials.

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 (dualboot), 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, and whiplash associated neck pain. 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 from quasi-static to high strain rates. This activity 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.

Cardiovascular Research Institute

1107 Elliman Building, 421 E. Canfield; 313-577-4630; FAX: 313-577-8615
Director: Karin Przyklenk, Ph.D.

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 to Advance Palliative-Care Excellence (CAPEWAYNE)

4201 St. Antoine, Suite 5C-UHC; 313-576-3997; Fax: 313-745-4710
<http://www.capewayne.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. A major undertaking of the Center is to offer a highly regarded regional conference on Palliative Care annually.

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 Automotive Research

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

Director: Naiem Henein, Ph.D.

Email: henein@eng.wayne.edu

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 of Engineering and local industry 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, under different operating conditions. The research thrust areas are auto-ignition and combustion in engines, conventional, alternate and renewable fuels, cold startability at low ambient temperatures, sensors, diagnostics, electronic controls, engine dynamics, friction and wear, and simulations and mathematical modeling.

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, auto-ignition 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 auto-ignition 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 chromatograph, FTIR spectrometer, mass spectrometer, fast response flame ionization detectors, fast-response NO detectors, and fast response CO and CO₂ detectors and high speed data acquisition systems.

Center for Excellence and Equity in Mathematics

1309 Faculty Administration Building; 313-577-2558; Fax: 313-577-7596;
Email: ceem@wayne.edu
Director: Steven Kahn, Ph.D.
<http://clas.wayne.edu/ceem/>

The Center for Excellence and Equity in Mathematics, in the College of Liberal Arts and Sciences, is a research and educational center with a two-fold mission: to find ways to significantly improve the quality of K-12 and introductory college-level mathematics instruction across the United States; and, by using mathematics as a tool, to provide students from inner cities and underrepresented minority groups with the kinds of educational and lifetime opportunities that should be available to all students.

The Center currently operates five core programs: the WSU Math Corps, an outreach program serving Detroit middle and high school students; the WSU Middle and High School Math Network, which provides day to day instructional and/or operational resources to Detroit area middle and high school math departments; the Math Corps Learning Community at WSU, a University support and retention program for Math Corps "kids" now attending WSU; and the Emerging Scholars Program (ESP), a WSU honors-level calculus and pre-calculus program; and the Rising Scholars Program (RSP), serving WSU students at the developmental level.

Center for Latino/a and Latin American Studies

3324 Faculty/Admin. Bldg.; 313-577-4378; Fax: 313-993-4073;
Director: Jorge L. Chinea, Ph.D.
Email: aa1941@wayne.edu
<http://www.clas.wayne.edu/cllas/>

The Center for Latino/a and Latin American Studies is a multi-service unit engaged in teaching, research, and service. The Center plays an important role in the urban mission of Wayne State University and involves four components:

1. The Center hosts two learning communities: the CBS Scholars Program and the College-to-Career Program. The first one recruits students into the University, facilitates their transition between high school and college, and promotes increased retention. The second program supports students through completion of their degrees and beyond, especially in the areas of career development and graduate school preparedness. It also offers courses and related educational activities for students interested in Latino and Latin American Studies.
2. It promotes research on issues relevant to the Latino/a community, especially in the urban and workplace environment; and Latin American cultural studies and current issues.
3. It creates and fosters the interaction and exchange of personnel and resources between the University and the Latino/a community; and it serves as a source of expertise on Latino issues to the larger metropolitan community.
4. As an advocate for the awareness and advancement of Latino/a issues within the University, the Center contributes to the

University's continuing efforts to create a richer multicultural campus environment.

Center for Molecular Medicine and Genetics

3127 Scott Hall; 540 E. Canfield; 313-577-5323; Fax: 313-577-5218
Email: l.grossman@wayne.edu
Director: Lawrence I. Grossman, Ph.D.
<http://genetics.wayne.edu>

The Center for Molecular Medicine and Genetics conducts and fosters interdisciplinary health-related research and research training in three 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.
3. Development and characterization of animal models of human disease: use of transgenic and knockout technologies in vertebrate and invertebrate model organisms to elucidate the etiology and pathophysiology of major diseases.

The Center offers the MS and Ph.D. in Molecular Genetics and Genomics and the MS 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.

Center for Peace and Conflict Studies

Director: Frederic S. Pearson
2320 Faculty/Administration Building
Phone: 313-577-3453; Fax: 313-577-8269
<http://www.clas.wayne.edu/pcs/>

On November 20, 1965 the Center for Teaching about War and Peace opened its doors under the leadership of Director Russell Broadhead and a committee of distinguished faculty members. The mission then was to provide interdisciplinary, University wide, academic programs in the field of domestic and international conflict and peace issues. In 1987 the WSU Board of Governors, building upon this rich heritage, created The Center for Peace and Conflict Studies.

The mission of the Center for Peace and Conflict Studies is to develop and implement projects, programs, curricula, research, and publications in areas of scholarship related to international and domestic peace, war, social justice, arms control, globalization, multicultural awareness and constructive conflict resolution. The Center addresses this mission in three ways. CPCS supports undergraduate and graduate student excellence through its academic programs. CPCS staff and students engage in scholarly research initiatives on aspects of domestic and international conflict management. CPCS provides community outreach programs that emphasize: conflict resolution, development of intercultural understanding, and enhance local knowledge of global affairs.

Center for School Health

125 Matthaei Building, 5101 Lodge Service Dr.;
Phone: 313-577-0014; Fax 313-577-5002

Director: Nate McCaughtry, Ph.D.
<http://coe.wayne.edu/centerforschoolhealth>

Founded in 2010, the Center for School Health aims to address social, economic, academic and health disparities by improving healthy eating and physical activity opportunities and education in community and educational institutions. The center conducts two types of activities:

1. research on healthy school transformation interventions and
2. providing support services for health promotion and reform initiatives in a range of diverse community and education institutions.

The primary activities conducted in the Center for School Health involve research on healthy school transformation interventions. In these projects, research faculty in the Center design innovative solutions to improving youth and family physical activity and healthy eating in community and education venues, acquire external funding to execute interventions and research, implement health school transformations, and conduct research on process and impact. Several large-scale, long-term, externally-funded healthy school transformation programs include: Building Healthy Communities, the Detroit Healthy Youth Initiative, and the Volunteers, Administrators and Coaches program.

Secondary activities conducted in the Center for School Health include providing support services to community and educational institutions to initiate, support, develop and execute environmental health reforms and individual and population health promotion. Support services provided include: grant writing, professional development, technical assistance, program implementation, curriculum development, evaluation, reporting and marketing, and grant administration.

In 2013, Center for School Health faculty, staff, and graduate students acquired \$2.8 million to support healthy school transformation projects; published twenty-eight journal articles, books and chapters; and presented forty-three research and keynote lectures. Their healthy school transformation work involved eighty-four educational institutions, 720 educators and site staff, and 36,000 children and their families.

The Center for School Health supports the educational mission of Wayne State University by serving as an incubator for undergraduate and graduate research opportunities, field placements, service learning, and internship sites.

Center for School Health faculty include: Nate McCaughtry (Director), Jeffrey Martin, Mariane Fahlmann, Bo Shen, Cheryl Somers, Anne Murphy, Noel Kulik Erin Centeio, Suzanna Dillon, Laurel Whalen, and Ronald Simpkins.

Center for Social Work Research

5447 Woodward; 313-577-4439; Fax 313-577-8770
Director: Joanne Sobeck, Ph.D.
Email: ab1350@wayne.edu
<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 including pre- and 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 policy makers 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 research-related 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, policy and practice briefs, and researcher-practitioner dialogue meetings. Learning communities are also provided for students interested in applying research methods to social work contexts.

Center for the Study of Citizenship

3089 Faculty/Admin. Bldg.; 313-577-2593; Fax: 313-577-6987
Email: M.Kruman@wayne.edu
<http://www.clas.wayne.edu/citizenship>

Twitter: @CitizenshipWSU

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 hosts the leading international conference in citizenship studies; publishes a book series, *Citizenship Studies*, in collaboration with the Wayne State University Press; sponsors a discussion network with over 2000 subscribers from over 30 countries; hosts an annual civic festival in September; and sponsors public programs about citizenship.

Center for Urban Studies

5700 Cass Avenue, Room 2207 Academic/Administration Building;
Tel.: 313-577-2208; Fax: 313-577-1274
Director: Lyke Thompson, Ph.D.;
Email: ad5122@wayne.edu
Managing Director: Charo Hulleza, M.P.A.
Email: c.hulleza@wayne.edu
Email: CUSinfo@wayne.edu
<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. The Center's current initiatives have a real, substantial and lasting impact on Detroit's challenges across a number of areas ranging from crime reduction to healthy homes. 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 eight specialized programs:

Healthy Homes: The Center's Healthy Homes unit has focused on researching and facilitating collaborative solutions to addressing housing-based hazards to health. The Center is conducting national and local studies on housing risks and their amelioration. Families have been assisted through educational presentations and programs, and home assessments.

Early Childhood and Disabilities: The Center provides a variety of education program evaluations for the State of Michigan and local school districts throughout Michigan, particularly in special education. Many of these evaluation studies collect information from program participants using different techniques including surveys and focus groups.

Urban Safety: The Urban Safety unit employs the latest techniques to evaluate crime prevention projects including, but not limited to, showing hot spots of urban crime, determining safe routes for children to walk to school, and prisoner re-entry initiatives. Community partners include community development organizations, local police departments, and municipalities. The Center maintains numerous databases that include, but are not limited to, crime statistics, transportation, housing, Census data, and health.

Governor's and Mayor's AmeriCorps Urban Safety: The Center is operating the Governor's and Mayor's AmeriCorps Midtown Urban Safety program to improve resident public safety capacity in seven areas of Detroit. AmeriCorps members work with local non-profits, police departments, schools and residents to improve resident public safety by recruiting residents to establish block clubs, and using mobile mapping to tackle area problems. Members are also facilitating safety workshops, conducting home assessments, and boarding up dangerous buildings/cleaning up public private areas to promote neighborhood stabilization and safe routes to school.

Urban Health: The Urban Health unit partners with local agencies to conduct research and program evaluation on specific urban health issues. The unit specializes in projects geared to address obesity and emergency preparedness, and to assist people diagnosed with HIV and victims of trauma. However, unit researchers can also assist organizations with health research/evaluation on other urban health topics.

Survey Research: The Survey Research unit engages in a variety of data collection techniques, including computer assisted telephone interviews, computer assisted self-administered interviews, community-based in-person interviews, focus groups, mail surveys, and web-based surveys. The unit has the capability to implement any and all phases of a project, from design and implementation to production of computerized data files and data analysis.

Evaluation Research: The Center provides program evaluation service to a range of organizations in the Detroit area and statewide. The support is structured to provide both process and outcome evaluation, as well as to provide training and capacity building on evaluation implementation.

Faculty Support: The Center regularly provides support for Wayne State faculty and administrative projects that include the Center as a project partner. The type of support varies by project, and ranges from project evaluation design to performing the lead role in grant submission (filling out all forms, developing overall budget, active development of grant narrative, etc.).

Cohn-Haddow Center for Judaic Studies

2311 Faculty/Admin. Bldg., 656 W. Kirby; 313-577-2679; Fax: 313-577-8136

Director: Howard Lupovitch, Ph.D.
Email: cohnhaddowcenter@wayne.edu
<http://www.judaicstudies.wayne.edu/>

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
Director: John Brender, Ph.D.
Email: ci@wayne.edu
<http://www.clas.wayne.edu/ci/>

The Confucius Institute was launched in January 2008 and established with the mission of offering Chinese language and culture in southeast Michigan and to establish educational ties with China. With support from Hanban: Chinese Language International, there are over 100 Confucius Institutes in the United States and over 425 institutes worldwide in over 100 countries. 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, a two-week summer program in China, and grants for local school districts to establish or improve upon their Chinese language programs. At the university level, the WSU-CI provides study-abroad opportunities in China, including year-long scholarships and a summer service learning program to rural areas. Additional campus programs include a Chinese language and culture learning-community, a weekly Confucius Cafe featuring lectures about China, and regularly-scheduled opportunities to practice Chinese with native speakers. At the professional level, the WSU-CI hosts an annual Chinese language and culture teaching conference, sponsors and produces TV documentaries, and offers forums on Chinese language and culture upon request. Since December 2012, the WSU-CI has produced short, weekly videos spotlighting Chinese idioms with corresponding supplementary videos to enhance Chinese language learning. The WSU-CI also works with its sister school, Huazhong University of Science and Technology and other Chinese universities, to promote exchange and joint degree programs.

C.S. Mott Center for Human Growth and Development

275 E. Hancock; 313-577-1337; Fax: 313-577-8554
Interim Director: Jay M. Berman, M.D.
Co-Director: Stephen A. Krawetz, Ph.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 towards personalized reproductive medicine using a systems approach. The Center's objectives are to conduct basic and clinical research and research training in:

1. developmental biology, developmental disorders, preterm birth, preeclampsia, perinatal and neonatal physiology;
2. reproductive toxicology, teratology and the effects of drugs and environmental pollutants on pre- and post-natal 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 strategically situated in a recently renovated state-of-the-art free standing physical plant that 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 Physiology, Molecular Medicine and Genetics, Pediatrics, Computer Sciences, Psychiatry, the Merrill Palmer Skillman Institute as well as others. 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. The graduate program offers interdisciplinary doctoral-degree training in the reproductive sciences with the Ph.D. degree earned through the Department of Physiology. 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. 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 using a systems biology approach 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.

Damon J. Keith Center for Civil Rights

471 W. Palmer St.; 313-577-3620
Director: Peter J. Hammer, J.D., Ph.D.
<http://www.keithcenter.wayne.edu/>

The Damon J. Keith Center for Civil Rights memorializes the work of the Honorable Damon J. Keith, Senior Judge for the United States Court of Appeals for the Sixth Circuit, a civil rights icon, and one of our country's leading jurists. The Keith Center is also a leading source for the legal history of the civil rights movement and the historic accomplishments

of African American lawyers and judges. The Keith Center is further dedicated to research and community outreach addressing modern challenges to civil rights and racial justice.

The Keith Center seeks to honor Judge Keith by developing programs and opportunities that build upon his contributions to promoting equality and justice under law. The Keith Center promotes civil rights educational opportunities and encourages research on racial justice issues, including housing segregation, inadequate and segregated education, and unequal economic opportunities, with a particular focus on southeastern Michigan. It also contributes to the development of the next generation of civil rights advocates by providing opportunities to work with leading civil rights organizations and providing scholarships to Wayne Law students interested in pursuing civil rights law. The Keith Center partners with the Wayne Law clinics to engage the community directly through education initiatives and direct services.

The Keith Center recognizes the ongoing need for institutions that instill the virtues of social conscience and sensitivity to the challenges that remain in the fight for legal and social equality. The Keith Center is a national and international resource for identifying and defining the struggles that have occurred and addressing those that remain.

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.;
Email: B_Le_Roy@wayne.edu
<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 Disabilities (Graduate Certificate (p. 302)). 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 bi-annually to provide information

and assistance to Institute staff and faculty in establishing priorities and evaluating activities.

Douglas A. Fraser Center for Workplace Issues

Walter P. Reuther Library, 5401 Cass Ave.; 313-577-5382; Fax: 313-577-5359

Director: Marick F. Masters, Ph.D.

Email: marickm@wayne.edu

<http://www.clas.wayne.edu/fraser/>

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 external and internal advisory Boards of Labor@Wayne. It supports research through the Fraser Fellows, Fraser Scholars, Fraser Paper Series, and Fraser Workshop activities. It sponsors the annual Labor Leaders on Labor Forum which honors nationally prominent leaders for their contributions to working people and families. The Fraser Center also convenes numerous conferences and events to bring academics, labor leaders, business leaders, and policymakers together to discuss important workplace and public policy topics. It focuses on manufacturing, healthcare, and the public sector. The Fraser Center supports various topical White Papers on key issues such as employee engagement through labor-management joint initiatives.

Humanities Center

2226 Faculty/Administration Building; 656 W. Kirby

Telephone: 313-577-5471; Fax: 313-577-2843

Director: Walter F. Edwards, Ph.D.

Email: walter.edwards@wayne.edu

<http://www.research2.wayne.edu/hum/>

The mission of the Humanities Center is to nurture interdisciplinary, transdisciplinary and intradisciplinary work in the humanities and the arts through competitions, conferences, discussion groups and other programs for Wayne State's humanities and arts faculty and students, and for visiting scholars and artists. The Center promotes excellence in research and creative endeavors through rigorous peer review of proposals submitted to it for funding. By sponsoring programs that involve community participants, the Center supports the University's urban mission. Through its various programs, the Center brings humanists of diverse talents and interests together for conversation and collaboration, and fosters innovation and creativity across the humanistic disciplines.

The Humanities Center provides funding support to both faculty members and students. Two of the Center's most prominent faculty programs are the Marilyn Williamson Endowed Distinguished Faculty Fellowship (MWEDF) and an annual themed Faculty Fellowship Competition. The Center awards either one or two Williamson fellowships a year, each worth \$20,000, depending on the funds available in the budget. Other faculty award programs include an annual themed the Faculty Fellowship Competition with between eight and ten recipients awarded up to \$6,000 each. Prominent student programs are the Doctoral Dissertation Fellowship and the Graduate Travel program. The Doctoral Dissertation Fellow will receive \$15,000 plus health care coverage if it is requested. Up to three smaller awards of \$500 may be made at the

discretion of the Center to applicants for the award. The Graduate Travel program encourages graduate students in the humanities and the arts to present their research or artistic work at national conferences and exhibitions by offering up to \$300 in travel assistance to applicants. Please check the Humanities Center Web site for additional programs that provide funding opportunities for faculty.

Institute of Environmental Health Sciences

Integrative Biosciences Center, 6135 Woodward Ave.; 313-577-5631; Fax: 313-972-8025

Director: Melissa Runge-Morris, M.D.

Email: iehs_info@wayne.edu

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

The Institute of Environmental Health Sciences (IEHS) is the originator of the Center for Urban Responses to Environmental Stressors (CURES). The CURES Center focuses on how the stresses of urban, industrialized life affect vulnerable populations. Two defining features of this urban environment are:

1. the exposure to stressors that are especially prevalent in the urban industrialized environment, including physico-chemical (e.g., air pollution, heavy metals, polychlorinated biphenyls, maternal alcohol exposure) and psychosocial (e.g., the stress experienced by first responders to emergencies) stressors; and
2. the experiences of people who are particularly vulnerable to the adverse effects of such exposures (e.g., children and adults of low socio-economic status, older adults, first responders, and refugees).

Detroit's leadership in the automobile manufacturing industry during the 1950s-60s brought prosperity to this region with an unprecedented level of private home ownership. The 1970s-90s introduced global competition to car manufacturing and eroded Detroit's dominance in the automotive industry. Today, with its reduced tax base and aging population, Detroit's infrastructural support is at an all-time low. The population of the City of Detroit has declined by 64% from its zenith of 2 million in 1950 to an estimated 713,777 according to the 2010 census. As industry and residents leave Detroit, urban blight has caused large areas of the city to become areas of environmental concern. Today, Detroit is the "poster child" for urban rezoning, restructuring, and rebuilding (Time Magazine, Sept. 24, 2009; The Wall Street Journal, May 14, 2010; The Washington Times, March 9, 2010). The mayor is working with Detroit's communities and urban leaders to "right size" the city so that neighborhood resources and infrastructure can be realigned to match the current density and needs of the urban populace. This ambitious goal will require activity by many groups and stakeholders, and includes plans to relocate individuals, schools, and support facilities from abandoned "ghost town" neighborhoods to newer revitalized population centers. Urban gardens are planned, and thousands of dilapidated homes and businesses are slated for demolition in Detroit. However, the toxicological implications of urban restructuring have not been adequately addressed and need to be dealt with effectively to ensure a safe transition toward a modernized, clean, "right-sized" urban community.

CURES investigators are partnering with members of Detroit's urban community and with academic investigators in our region. We share an underlying concern that diseases that compromise the quality of life in the residents of an industrialized urban environment, such as Detroit, occur as a consequence of dynamic interactions among an individual's genetic and epigenetic make-up, nutritional status, and environmental stressors, which include chronic low-level toxicant exposures as well as psychosocial and physical stressors, that reprogram key cellular gene

expression and regulatory networks to favor pathogenesis. Major goals of the CURES Center are to:

1. identify the chief environmental health threats to metropolitan Detroit's urban communities and vulnerable populations;
2. develop well-integrated mechanistic, epidemiological, and community-based research programs focused on the impact of urban environmental exposure on human health;
3. characterize the molecular signatures of urban environmental toxicant exposure using cellular, animal, and human models; and
4. discover and validate novel biomarkers of environmental disease risk that can be applied to disease prevention and policy change initiatives

With its unique emphasis on applying transdisciplinary team science to achieve translational research gains in the field of urban environmental public health, the CURES Center stands at the leading edge of the next wave of paradigm-shifting advances in this field. The next generation of "environmental health scientists" will most certainly be team scientists who above all are supremely facile with applying transdisciplinary approaches to tackle tough environmental health issues. Understanding exposure to environmental stressors requires an integrated appreciation of environmental contaminants in our physical environment, their bioavailability, the means of personal exposure, and interactions of contaminants with emotional stress and gene expression networks that influence health outcomes in the individual. The new leaders in this field will bring a transdisciplinary team approach to the research table, offering much needed diversity of expertise in civil engineering, industrial hygiene, urban planning, community engagement, toxicant chemistry and bioavailability, mechanistic science, exposure science and bio-monitoring, medicine, population science, psychiatry, social work, geopolitics, computer modeling, genetics/epigenetics, bioinformatics and yes, teamwork. The CURES Center is optimally positioned on "the ground floor" of innovative team science opportunities that have the greatest promise to realize the early detection, prevention and eventual eradication of urban environmental disease in our lifetime.

Institute of Gerontology

87 E. Ferry St.; 226 Knapp Bldg.
Telephone: 313-577-2297; Fax: 313-664-2667
Director: Peter Lichtenberg, Ph.D., A.B.P.P.
Email: ioginfo@wayne.edu
<http://www.iog.wayne.edu>

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 its 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.

Institute for Learning and Performance Improvement

399 Education Bldg., 313-577-5139; Fax: 313-577-1693
Director: Ingrid Guerra-López, Ph.D.
Email: iguerra@wayne.edu

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: needs assessment; performance, program, and impact evaluation; performance measurement and management systems, including dashboard design; instructional and performance design; change creation and change management; 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 personnel competence, productivity, efficiency, 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

Intellectual Property Law Institute (I.P.L.I.)

This 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. 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.).

Labor Studies Center

3178 Faculty/Administration Building; 313-577-2191; Fax: 313-577-7726;
Email: laborschool@wayne.edu
Director: Gayle Hamilton
<http://clas.wayne.edu/labor/About-the-Labor-Studies-Center>

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.

Ligon Research Center of Vision

Ligon Research Center of Vision, 4717 St. Antoine; 313-577-9136
Director: Gary Abrams, M.D.
Scientific Director: Zhuo-Hua Pan, Ph.D.
Email: ligoncenter@med.wayne.edu
<http://www.kresgeeye.org/research/ligon-research-center-of-vision/>

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 to the blind. The Center is a collaborative effort between the departments of Ophthalmology and Anatomy & Cell Biology at Wayne State University, conducting interdisciplinary research on molecular biology, immunocytochemistry, electrophysiology, gene therapy, and animal behavior. In particular, the Center invented a novel strategy for vision restoration, the optogenetic gene therapy.

The severe loss of photoreceptive cells in inherited or acquired retinal degenerative diseases, such as retinitis pigmentosa or age-related macular degeneration, can result in partial or complete blindness. The optogenetic gene therapy strategy for restoring vision relies upon expressing a light sensitive protein, called channelrhodopsin-2 (ChR2) from green algae, to convert light-insensitive inner retinal neurons into photosensitive cells, thus restoring light sensitivity to retinas lacking photoreceptors. Using recombinant adeno-associated virus (rAAV) vectors to deliver ChR2, previous work in the Department of Anatomy/Cell Biology and the Ligon Center of Kresge Eye Institute has demonstrated the feasibility of restoring light sensitivity to the retinas of photoreceptor-deficient animal models. The technologies developed at Wayne State University have been licensed to a biotech company, RetroSense therapeutics. In August, 2015, RetroSense's first optogenetic gene therapy drug application received clearance from the US Food and Drug Administration (FDA) for clinical trial.

To achieve better outcomes for the restored vision in patients, current research in the Center focuses on the further development of the optogenetic technologies. The studies include improving the properties of optogenetic light sensors, developing virus-mediated targeting to specific inner retinal cell type(s), improving rAAV-mediated delivery and transduction efficiency in retinal neurons using non-human primate models.

Manufacturing Information Systems Center

328.02 Prentiss Bldg., 5201 Cass Ave.; 313-577-4545; Fax: 313-577-5486
Email: aragowsky@aol.com
Director: Arik Ragowsky, Ph.D.
<http://ilitchbusiness.wayne.edu/faculty/research.php>

The Manufacturing Information Systems Center was chartered in 2000. Its mission is to enhance and extend the Mike Ilitch School of Business' 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. In addition, the center conducts research about the following topics: The gap between IT and the organizational managers and users, and the way to bridge this gap; Outsourcing versus insourcing of IT activities; and, Different trends in the IT industry like cloud computing.

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's 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: an annual CIO (Chief Information Officer) Roundtable discussion. In consultation with some of the CIOs, the faculty members determine which topics will be covered at the next Roundtable. The faculty members undertake research on these topics, present opening comments on the topics, and then moderate the discussion while refraining from offering their own opinions. The purpose of the Roundtable is to let the CIOs discuss significant topics among themselves and to learn from each other. These discussions inform the faculty members' course content and research efforts, enhancing student learning and leading to scholarly presentations/publications of both basic and applied research. To date, the Center has held eight Roundtable discussions; the participants have been very pleased and encouraged us to continue these meetings. As ERP systems have grown beyond the manufacturing sector, the Center has involved organizations from other industries, such as finance, green energy, and government. We published seven papers in different academic journals based on these Roundtable discussions, with additional papers in process.

The Center involves students in its activities. The Center organizes projects for students in real-life organizations where the students can practice the theory they learned in class. For instance, the Center worked with the Lear Corporation, conducting projects with fourteen of Lear's plants. Students gained significant knowledge and experience, the participant plants learned how to better use information systems in general and ERP in particular, and the Center faculty members prepared academic papers based on these case studies.

These types of activities expand the visibility of the University and the Mike Ilitch School of Business in the business community, while benefiting businesses, students and faculty research activities.

Merrill-Palmer Skillman Institute for Children and Families

71 East Ferry Ave.; 313-664-2500; Fax: 313-664-2555
Interim Director: Peter Lichtenberg, Ph.D.
Email: mpsi@wayne.edu

<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.

Infant Mental Health: Dual-title degree programs in infant mental health are offered in conjunction with degrees sponsored by the Schools of Nursing, Education and Social Work. For curricula pertaining to these programs, please refer to the individual program and school/college sections in this bulletin.

Computing and Information Technology Division (C&IT)

Office: 5925 Woodward Ave.

Tel.: 313-577-4722; Fax: 313-577-5500

Associate Vice President and Chief Information Officer: Daren Hubbard
<http://computing.wayne.edu>

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

AccessID

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

Email and Communication Tools

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

Broadcast Messaging (Emergency Alerts) (<https://broadcast.wayne.edu>): This University-wide service delivers emergency alerts and other significant messages to faculty, students, and staff.

Recipients can register their cell phones to get emergency alerts, grades, and other important information via text messages.

Mobile Apps

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

Blackboard Mobile Learn gives students access to their course information directly from their smartphones. Students can check grades and assignments, view documents, create discussion and blog posts, and much more. Apps are available for free download on Android and iOS devices.

Academic IT Services

Blackboard is WSU's course management and learning platform.

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
- allows faculty to create tests, detect plagiarism, post scores (Grade Center), and host live web conferences

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

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

Administrative IT Services

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

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

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

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.

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

Computer Repair Services (<http://computing.wayne.edu/pc-clinic>): If a personally-owned Windows PC or Mac crashes frequently or is unusually slow owners may want to consult the competitive prices from C&IT for diagnostic and repair services on main campus in the Student Center Building.

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

Help Desk (<https://computing.wayne.edu/helpdesk>): The C&IT Help Desk is Wayne State's campus technology headquarters - a one-stop shop for all your tech support needs. Call, email, or live chat for one-on-one help with any of Wayne State's IT systems, like email, Blackboard, or Academics. Stop in for computer and mobile device diagnostic and repairs computer and mobile device diagnostic and repairs - anything from connecting a phone to Wi-Fi to fixing a broken computer. And shop for free and discounted software- free and discounted software. The C&IT Help Desk's vision is to make sure your computing issue is fully resolved on first contact or routed to higher tiers of support with 100% accuracy.

The C&IT Help Desk is open for walk up appointments at 005 Student Center Building, Monday - Friday 8:30am - 5pm. It is open via phone at 313-577-HELP or Live Chat (<http://computing.wayne.edu/helpdesk/chat.php>) from Monday - Friday from 7:30 a.m. - 8:00 p.m. You can email any time to helpdesk@wayne.edu.

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

Graduate Degree and Certificate Requirements

Application for Degree or Certificate

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

Certificates: Graduate and Bridge Graduate 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 Degrees

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.

Master's Essay

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.

Master's Thesis

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. The Graduate School oversees the format requirements and templates (<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:

1. completes the requirements for the degree;
2. declares him/herself no longer a candidate for the degree; or

3. 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 Degrees (Ph.D.)

In addition to the following regulations, additional requirements for doctoral degrees 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 knowledge, 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: 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 Ph.D. 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 (<http://wayne.edu/gradschool/phd>).

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.

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.

Mandatory Ph.D. Pre-Candidacy 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.

Individual Development Plans (I.D.P.'s)

To promote long-term career planning and development, all Ph.D. students are required to complete an Individual Development Plan (IDP) by the end of their first year in graduate school. These documents are designed to foster conversation between a student and their mentor(s) about career goals and the skills necessary to succeed in those positions after graduate school. The document is to be updated annually throughout the student's tenure in graduate school to promote follow through on the action plan and to revise the action plan in response to new opportunities and increased competency. This documents is completed on-line. It is approved electronically by both the dissertation advisor and the Graduate Director.

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.

Conflict of Interest: It is essential that the members of the committee have not only the requisite professional credentials, but that they are also free of conflicts of interest or commitment that could bias or have the appearance of biasing their judgment about the best interests of the student and the scholarly merit of the dissertation. The present policies and procedures provide a means of disclosing and managing perceived or real conflicts of interest or commitment among dissertation committee members. Each committee member must complete and sign the disclosure form, which must be submitted prior to the approval of the Prospectus and Record of Approval form and again at the time of the Dissertation Public Lecture Presentation Defense form. Conflicts of interest or commitment include financial, personal and/or professional affiliations that could potentially or actually affect the member's objectivity about the dissertation or the student.

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 student 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 Student Services 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 presentation, 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 (<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. 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.

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.

Time Limitation for Doctoral Programs

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 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.

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.

Educational Outreach

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Director, Business Affairs: Arthurine Turner

Manager, Administrative Services: Heather Howell

Program Coordinators: Cheryl White, Gail Stanford, Nevein Michail, Susan English

Instructional Services Supervisor: Margaret Matyniak

Email: educationaloutreach@wayne.edu

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

Educational Outreach is principally responsible for Wayne State University's off-campus offerings including online programs and courses. This division administers academic off-campus course offerings and

programs for most Schools and Colleges of the University; the University Summer Session; and the partnership degree programs at University centers located on community college campuses. Additionally, the division oversees credit and non-credit executive education, certificate, professional development and continuing education programs for the University.

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

Dual Enrollment Cohort Programs

Educational Outreach coordinates dual enrollment cohort programs for high school students in interested school districts. Dual enrollment cohort programs may be offered on site within the school district or at any of the Wayne State University campuses.

Visitor Program (Non-Credit)

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

The Visitor Program allows any adult who is not currently enrolled in credit courses at Wayne State University to attend a wide range of University courses in a noncredit status. Visitor status students do not receive academic credit and do not receive acknowledgement on transcripts. Provided space is available and permission has been granted, adults may enroll as visitors in most of the courses listed in the Schedule of Classes.

It is not necessary to be formally admitted to the University to take advantage of the Visitor Program. Visitor status students do not submit written work or take examinations.

Registration for both on-campus and off-campus classes takes place the first two weeks of classes and is processed by the Division of Educational Outreach, located on the main campus.

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

Travel Study

Sponsoring schools and colleges in the University offer travel study programs through the Division of Educational Outreach. Most programs occur in the spring/summer sessions; times and locales vary each year. Travel study refers to programs in the United States. Please refer to the Office of International Programs (<http://bulletins.wayne.edu/>)

undergraduate/general-information/international-programs) for study abroad programs. Recent travel study programs include:

College of Liberal Arts and Sciences: Biological Sciences: marine lab at the Florida Keys; field studies at Fish Lake, Michigan

College of Education: Science Education: ecology courses at Higgins Lake, Michigan

College of Fine, Performing and Communication Arts: Fashion Merchandising: design in New York City

Extension Centers

Associate Director, Extension Centers and Programs, Oakland Center:

Michael Quattro

Manager, Macomb Centers: Stacy Jackson

Program Manager, Schoolcraft Center: Gail Stanford

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

OAKLAND CENTER

33737 W. Twelve Mile Road
Farmington Hills, MI 48331
Telephone: 248-553-3545; 313-577-3592
Fax: 248-553-7733
Email: oaklandcenter@wayne.edu

SCHOOLCRAFT COLLEGE

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

MACOMB EDUCATION CENTER

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

UNIVERSITY CENTER AT MACOMB

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

ADVANCED TECHNOLOGY EDUCATION CENTER

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

Registration for Off-Campus Courses

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

Fees for credit classes are the regularly established fees of Wayne State University, which are published each semester in the university schedule of classes (<http://classschedule.wayne.edu>). All fees are subject to

change at any time without notice by action of the Board of Governors of the University.

Non-Matriculant Advising

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

Admission Requirements

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

Programs Offered Through Educational Outreach

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

Undergraduate Degree and Certificate Programs

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

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

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

Graduate Degree and Certificate Programs

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

Cognitive Impairment
Learning Disabilities
Autism Spectrum Disorders

Master of Social Work

Transfer Student Success Center

Director: Douglas Freed
Manager: Jo Bains
Telephone: 313-577-2487
Email: transfer@wayne.edu

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

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

Direct service to students includes support with:

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

Direct service to community college staff includes:

Information about Transfer Plans and transferring of credit
Development of articulation agreements
Hosting/coordinating staff and faculty visits to WSU
Opportunities for Professional Development through conferences and workshops
Providing counselors/advisors and other staff with current/updated WSU information

Direct service to WSU departments includes:

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

Executive and Professional Development Programs (Non-Credit)

Associate Director: Michael Kelly
Project Manager: Abby Cheatham
Telephone: 313-577-4449
<http://www.ExecEd.wayne.edu>

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

Business Training and Executive Education

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

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

Certificate Programs

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

On-Site Consulting Services

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

Procurement Technical Assistance Center

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

For further information on any Executive and Professional Development services or activities, call: 313-577-4449.

Financial Assistance

Office of Student Financial Aid (OSFA)

Welcome Center, 42 W. Warren Avenue,

P.O. Box 2340, Detroit, MI 48202
Telephone: 313-577-2100 or Fax: 313-577-6648
<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 submit on the Free Application for Federal Student Aid (FAFSA). Descriptions of the specific services that OSFA provides are stated below.

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

Service Hours: Walk-in service is provided in the lobby of the Welcome Center Monday through Thursday, 8:30 a.m. to 6:00 p.m., and Friday 8:30 a.m. to 5:00 p.m. June through August, appointments and walk-in services end at 5:00 p.m. Monday through Friday.

Financial Aid Types

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

Grants

Grants are gift assistance awarded on the basis of financial need and do not require repayment. The Free Application for Federal Student Aid (FAFSA) is required.

Scholarships

Scholarships are gift assistance awarded on the basis of academic achievement or other special ability and do not require repayment. In some such awards, financial need is a factor.

Loans

Loans are money that must be repaid at a future date, usually following graduation or when the student ceases to be enrolled on at least a halftime basis. Need- and non-need-based loans are available.

Work-Study

Work-study is on- or off-campus part-time employment with eligible employers that pays at least the federal minimal wage. Work-study is awarded on the basis of financial need. 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 (<http://careerservices.wayne.edu/student-employment.php>), located in Room 1001 of the Faculty/Administration Building.

Application for Federal Financial Aid (FAFSA)

How and When to Apply for Financial Aid: Each academic year, students applying for financial aid do so by completing the Free Application for Federal Student Aid (FAFSA) (<http://www.fafsa.ed.gov>). This is a

government agency and the federal processor will electronically transmit the FAFSA data to the University's Financial Aid Office if the applicant lists the WSU federal code, 002329, on the FAFSA.

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

Application Deadlines

Fall/Winter Application Priority Date: The application priority date for financial aid consideration at WSU for fall and winter semesters is the date by which the FAFSA should be submitted to facilitate determination of student eligibility for financial aid before the beginning of the fall semester. The priority date is not a deadline. Students may submit the FAFSA after the priority date.

The 2017-18 FAFSA can be submitted October 1, 2016 through June 30, 2018.

The 2018-19 FAFSA can be submitted October 1, 2017 through June 30, 2019.

The 2017-18 FAFSA requires 2015 federal tax information. The 2018-19 FAFSA requires 2016 federal tax information. Applicants may be able to use the IRS Data Retrieval Tool when completing the FAFSA. The IRS Data Retrieval Tool will immediately upload tax data to the student and/or the parent section of the FAFSA. This tool cannot be used until one to two weeks after electronically filing a tax return and six to eight weeks after filing a paper tax return.

Spring/Summer Financial Aid: The Office of Student Financial aid will use your 2017-18 FAFSA information to determine your aid eligibility for spring/summer 2018 financial aid and your 2018-19 FAFSA information to determine your eligibility for spring/summer 2019 financial aid. Note: If the FAFSA has been submitted for the academic year, it is not necessary to submit it again for the spring/summer semester.

Academic Calendar: At WSU, the spring/summer semester is the third term of the school year; 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 2018 is part of the 2017-18 school year; the spring/summer semester 2019 is part of the 2018-19 school year.)

Financial Need Determination

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

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

Verification: The process by which an educational institution confirms the accuracy of the data reported on an individual student's FAFSA is called verification. The federal processor selects the FAFSA applications for which the data submitted must be verified. If the federal processor

selects a student's FAFSA for verification, he/she must provide documentation to confirm the information on the FAFSA.

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

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

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

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

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

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

Eligibility and Conditions of Financial Aid

Students must be enrolled in an eligible degree- or certificate-granting program to receive financial aid funds. Enrollment must be at least halftime to be considered eligible for most types of aid. At the undergraduate level, enrollment for six to eleven credits is considered halftime and enrollment for twelve or more credits is considered full-time.

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

Prerequisite coursework aid eligibility is limited. Determination of aid eligibility requires submission of the Prerequisite Eligibility Status Form, which is available on our website.

Repeat Coursework

Federal financial aid will pay for only one repeat registration if the student has previously earned credit in a course with a passing grade. That is, students are only eligible to receive financial aid the first time the course is repeated. Example: A student registers for four classes. For the purpose of earning a higher grade, although a passing grade was received in the class previously, one of the classes is being enrolled in for the third time. Financial aid will be based on enrollment only for the three other classes.

Financial Aid Enrollment Policy and the Census Date

Census Date Definition is the date on which WSU counts the number of students enrolled at the institution, which is the tenth day of each semester. It is the policy of the Office of Student Financial aid to lock or "freeze" the number of enrollment credits after the census date each semester. After the enrollment credits are locked or "frozen," financial aid will not be adjusted (increased or decreased) unless a student withdraws from all classes. Therefore, the number of credits for which a student is enrolled on the census date determines the amount of grant funds that he/she will receive for the semester.

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

Calculating "Earned" versus "Unearned" Financial Aid

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

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

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

Enrollment Requirements for Federal Direct Loans

Financial aid is awarded based on the assumption of full-time enrollment. Since the actual enrollment status of some students is less-than-full-time at the time financial aid is disbursed OSFA reviews the number of credits for which each student is enrolled. At least halftime enrollment at the time of disbursement is required to receive a subsidized or unsubsidized Federal Direct Loan and a Federal Parent PLUS Loan.

Satisfactory Academic Progress (SAP)

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

WSU Satisfactory Academic Progress Standards are comprised of three components:

1. the cumulative grade point average (at least 2.0 is required at the undergraduate status),

- the pace of progress toward the degree or certificate must be at least 67%, and is determined by dividing the cumulative number of credits completed by the cumulative number of credits attempted, and
- the maximum time frame for completing the degree or certificate, which is 150% of the average published length in credits of the program.

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

The WSU Satisfactory Academic Progress Policy is available online. (<http://finaid.wayne.edu/receiving/academic-progress.php>)

Consequences of Withdrawing from Courses

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

If a student withdraws from all courses, he/she may be required to repay a portion of the financial aid received. Please see the section above titled Calculating "Earned" versus "Unearned" Financial Aid.

If a student's withdrawal from one or more courses results in less-than-half-time enrollment status, he/she will not be eligible for new federal loan funds. At the end of the grace period on the loans received, repayment will begin. Detailed information about grace periods and loan repayment is available on the Federal Student Aid website (<http://studentaid.ed.gov/repay-loans/understand>). A student should contact his/her lender to make payment arrangements or request a loan deferment or forbearance.

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

The U.S. Department of Education's Office of Federal Student Aid (<https://studentaid.ed.gov/sa>) governs the policies and procedures for loan repayments, deferment, forbearance, and limits.

Financial Aid Disbursement

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

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

Note: 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 separate from the fall and winter semesters, unused funds from a fall and/or winter work-study award cannot be earned in the spring/summer semester.

Enrollment Requirements for Federal Direct Loans: Financial aid is awarded based on the assumption of full-time enrollment. Since the actual enrollment status of some students is less-than-full-time, at the time financial aid is disbursed OSFA reviews the number of credits for which each student is enrolled. At least half time enrollment at the time

of disbursement is required to receive a Federal Direct Unsubsidized Loan and a Federal Grad PLUS Loan.

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 Manager: Rebecca Journigan

<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
- the English Language Institute

Office of International Students and Scholars (OISS)

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

Director: Kelli Dixon

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

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

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

Academic Progress for International Students

Department of Homeland Security regulations require:

- That F-1 and J-1 students maintain a full course of study and make normal academic progress toward program completion at the institution they have been authorized to attend.
- Graduate students must successfully complete at least eight credits each semester (excluding continuing students who qualify for an annual vacation semester during Spring/Summer or have been granted an exception to full-time enrollment). Undergraduate students must successfully complete at least twelve credits each semester (excluding continuing students who qualify for an annual vacation semester during Spring/Summer or have been granted an exception for full-time enrollment).
- Graduate Teaching Assistants and Graduate Research Assistants must successfully complete at least eight credits each semester

(excluding students who qualify for a vacation semester during Spring/Summer or an approved annual vacation). If GTAs/GRAs need to take less than eight credits, they must complete the OISS Request for Exception to Full Time Enrollment form and obtain approval from OISS. Students should consult an OISS advisor for details on compliance with this and other requirements.

New International Students and Scholars

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

Non-Immigrant International Students

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

Commuting Canadian Students

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

International Faculty and Research Scholars

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

their identity and employment eligibility at OISS before commencing employment at Wayne State University.

Health Insurance (International Students and Scholars)

416 Welcome Center; 313-577-3422; Fax: 577-2962
Health Insurance Advocate: 313-577-0724

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

Cross-Cultural Activities

The OISS provides cross-cultural activities in order to provide exposure to American society, culture, and institutions. Activities include: International Education Week, new international student learning community, a free international coffee hour held 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 Office

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

Director: Kelli Dixon

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

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

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

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

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

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

Arabic Language and Culture at the Lebanese American University, Beirut

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

Japan Center for Michigan Universities

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

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

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

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

Resource Center

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

Honors College

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

Fulbright Grants and other grants for graduate study abroad

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

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

English Language Institute (ELI)

351 Manoojian Hall, 313-577-2729

Director: Bruce Morgan

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

As the only intensive English language program in the metropolitan Detroit area, the English Language Institute (ELI) has specialized in teaching English communication, cultural orientation, and academic preparation skills to non-native speakers of English from all over the world for more than forty years. The ELI is committed to assisting individuals at all levels 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.

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

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

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. ENG 5850 is a course supported by the Graduate School and taught by ELI faculty each semester.

English Language Institute Courses (ELI)

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

ELI 0100 Level 1: Oral Integrated Cr. 2,4

Focus is simple, basic oral communication in English for speakers who have very little knowledge of English. Students will acquire the ability to understand slow spoken English and interact with others in English about simple topics such as personal information, weather, time, food, clothing, transportation, people, housing, health, workplace, and education. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0110 Level 1: Written Integrated Cr. 2,4

Focus is simple, basic written communication in English for speakers who have very little knowledge of English. Students will acquire the ability to write numbers, common words, phrases and simple sentences in English with very basic grammar. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0120 Level 1: Intensive Reading and Vocabulary Cr. 2,4

Basic reading course in which students will learn to read isolated words and phrases that are familiar to everyday life. Students will recognize familiar names or words and read for information to understand announcements and follow directions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0200 Level 2: Oral Integrated Cr. 2,4

Focus is to increase the student's ability to comprehend and produce common spoken English with high frequency vocabulary. Students will be asking and answering questions, taking notes on main ideas, and participating in short social exchanges. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0210 Level 2: Written Integrated Cr. 2,4

Students will acquire the ability to write simple sentences and progress to writing complex sentences using clauses. Students will form a well-organized paragraph with a topic sentence, supporting details, and examples with transitions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0215 Level 2: Intensive Reading and Vocabulary Cr. 1,2

Focus is to increase students' comprehension of printed material and increase vocabulary. Students will read a short text and identify main ideas, details, and interpret vocabulary from context; will be able to follow written directions and announcements; and will be able to make inferences from written information. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0220 Level 2: Communicative Grammar Cr. 1-2

Builds communicative competence, or ability to communicate effectively, naturally, and appropriately in a variety of real life situations. In order to build communicative competence, grammar points will be introduced and practiced with an emphasis on the productive skills of speaking and writing. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0300 Level 3: Oral Integrated Cr. 2,4

Students will increase their ability to communicate in clear standard speech on familiar matters regularly encountered at work, school, leisure, etc. Academic vocabulary will be introduced/increased. Students will increase their ability to comprehend the main points of longer lectures and take notes on main ideas. Students will have group discussions and give short presentations. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0310 Level 3: Written Integrated Cr. 2,4

Students will produce a well-developed paragraph with organization: topic sentence, transitions, two to three main points with two to three supporting details and examples, and concluding sentences. Grammatical structures will be introduced to help students practice compound and complex sentence variety for precision and detail in writing. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0315 Level 3: Intensive Reading and Vocabulary Cr. 1,2

Focus is to increase vocabulary and comprehension of varied reading passages. Students will be able to identify topics, main ideas, and details as well as recognize point of view, purpose and tone. Students will use strategies to discern meaning of words from context and use dictionary skills to increase vocabulary. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0320 Level 3: Extensive Reading Cr. 1-2

Students will increase their reading fluency, or speed and ease of reading. The focus of their reading will be on identifying overall meaning of texts. Class Readers will be assigned to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0400 Level 4: Oral Integrated Cr. 2,4

Focus is the enhancement of communication skills in an academic context. Students will learn pronunciation rules, take notes on main ideas and details, orally summarize what was presented, offer opinions on various topics, and give longer presentations on topics using a variety of rhetorical modes. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0410 Level 4: Written Integrated Cr. 2,4

Students will acquire the ability to organize and write a four- to five-paragraph essay using a variety of sentence types, rhetorical modes, and transitions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0415 Level 4: Intensive Reading and Vocabulary Cr. 1,2

Students will identify the structure, purpose, and connection between ideas in academic texts by finding main ideas, topic sentences, and supporting details in a passage. Students will use strategies to discern meaning of words from context and use dictionary skills to increase vocabulary through word forms. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0420 Level 4: Extensive Reading Cr. 1,2

Students will increase reading fluency by identifying overall meaning of texts. Class Readers will be assigned to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0500 Level 5: Oral Integrated Cr. 2,4

Focus is on mastering communication skills in an academic context. Students will take notes on main ideas and details, orally summarize what was presented, offer opinions on various topics, and give longer presentations on topics using a variety of rhetorical modes in academic/professional fields. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0510 Level 5: Written Integrated Cr. 2,4

Students will develop critical thinking skills through reading, writing, and classroom discussion. Students will write well-developed five- to eight-paragraph essays and relate assigned readings to their own experience. Students will learn how to incorporate outside sources into their essays and use appropriate citations. Advanced grammatical structures will be reviewed and expanded as necessary Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0515 Level 5: Research Skills Cr. 1,2

Introduces academic writing and research at the university level. Breaks the traditional research paper into shorter writing assignments while focusing on academic writing skills such as paraphrasing, summarizing, and using correct citations. Students will learn how to search for and evaluate academic sources in the library and online databases. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0520 English for Teaching Assistants Cr. 2

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

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0530 TOEFL/Timed Essay Writing Preparation Cr. 1-2

Class designed to enhance student's ability to understand and perform on the Test of English as a Foreign Language (TOEFL) for the paper-based and iBT(Internet)-based formats. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0540 Level 5: Media & Culture Cr. 1,2

Provides a greater understanding of American culture and current events via extensive reading from novels and texts as well as print media, leading to integrated learning outcomes such as written assignments, oral presentations, and discussions. TV and radio programs, as well as films and documentaries will provide input for activities and assignments. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 6 Credits

ELI 0600 Academic Preparation III: Oral-Integrated Cr. 2,4

Increasing aural/oral fluency through participation in academic/content-based discussions and other forms of speech in different settings (formal/informal and academic). Presentations are recorded. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0610 Academic Preparation III: Written-Integrated Cr. 2,4

Development of critical thinking skills and advanced level grammar for writing competency in various rhetorical modes for multi-page essays. To increase comprehension, readings will be authentic/native-speaker materials. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0615 Academic Preparation III: Reading and Vocabulary Cr. 1,2

Students learn advanced academic words and gain in-depth understanding of meaning and uses of new vocabulary in authentic readings. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0699 Directed Study Cr. 1-4

Meets the needs of English as a Second Language (ESL) students in their last stages of preparation for matriculation. Based on students' particular needs, instruction will be provided to strengthen various academic preparation skills, including listening and note-taking practice in an academic context, extensive and intensive reading, and expository and research paper writing. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 8 Credits

ELI 0700 Written Communication Cr. 1,2

Through reading and writing of complex texts, students improve their understanding and use of American English grammar, and mechanics (punctuation and capitalization) for academic and professional settings. Offered Every Term.

Restriction(s): Enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0705 American Pronunciation and Clear Communication Cr. 1,2

Course addresses the communication needs of advanced-level, non-native English speakers who want to reduce the amount of pronunciation errors produced in their speech. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0715 Research Paper Cr. 1,2

Step-by-step instruction in the process of writing an American-style research paper with academic sources and following a prescribed format, such as APA or MLA. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0720 Advanced Integrated Skills Cr. 1,2

Authentic undergraduate-level lectures presented by WSU faculty from various disciplines are used to simulate academic courses. Students use all skills. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0725 Advanced TOEFL Preparation Cr. 1,2

Students develop strong vocabulary and reading skills in English and prepare for the TOEFL. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0730 TOEFL-iBT Preparation Cr. 1,2

Students enhance their ability to understand and perform on the Test of English as a Foreign Language (TOEFL) for the paper-based and iBT(Internet)-based formats. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0800 Writing Skills I Cr. 3

This course integrates reading, writing, and grammar and focuses on comprehending main ideas and details, inferencing in simplified reading texts, and understanding vocabulary in context. Students will learn to organize and write paragraphs with simple grammatically correct sentences. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to English Language Institute level students.

ELI 0810 Oral Skills I Cr. 3

This course integrates listening and speaking in English and introduces culturally appropriate interaction in speech. Students listen to dialogues, newscasts, and short lectures; give short presentations on a variety of topics; and receive individualized feedback on pronunciation. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0820 Writing Skills II Cr. 3

This course integrates reading, writing, and grammar and will emphasize how reading and writing are related. Rhetorical modes of essay writing will be introduced, authentic texts will be read, and more advanced grammar points will be covered. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0830 Oral Skills II Cr. 3

This course integrates listening and speaking in English and focuses on refining students' abilities to understand academic and informal spoken language by listening to academically-themed lectures and extended dialogues. They will develop critical thinking skills for responding to questions and giving presentations. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0840 Writing Skills III Cr. 4

Course integrates reading, writing and grammar; focus on reading authentic materials and writing essays. Students work to improve their understanding and use of American English, grammar, and mechanisms for academic settings. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0850 Oral Skills III Cr. 4

Course integrates listening and speaking in English and will help students increase their aural/oral fluency through participation in academic/content-based discussions and various other forms of speech in formal, informal and academic settings. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0860 Communication and Culture Cr. 4

This course will involve writing and oral presentations based on academic readings and cultural experiences. Additional instruction in grammar and sentence structure will be provided based on students' needs. Offered Every Term.

Restriction(s): Enrollment is limited to English Language Institute level students.

Records and Registration

Office of the Registrar

In Person Services: Student Service Center, Welcome Center, 42 West Warren

Mailing Address: 5057 Woodward; Suite 5101, Detroit, MI 48202

Telephone: 313-577-3550, Fax: 313-577-7870

<http://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 (<http://wayne.edu/register>)

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

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

Academica (<http://academica.wayne.edu>)

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

Accessing Academica requires a valid WSU Access ID (p. 33) (e.g., xy6789) and password. As soon as a student applies for admission or an employee is hired, a unique Access ID is automatically created. The university's Help Desk (<http://computing.wayne.edu/accessid>) services can provide technical assistance if necessary.

Degree Works (<http://wayne.edu/degreeworks>)

Degree Works is a degree tracking tool that allows you to see your progress toward graduation and help you and your advisor determine which courses you still need to take. Along with your advisor, you can

also map out which courses you will take in future semesters, putting you on the right path for graduation.

Drop/Add – Adjusting Your Schedule

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

1. The regulations pertaining to dropping and adding courses are stated as they pertain to regular courses fifteen weeks or more in duration. These regulations are applied proportionately to courses that are offered for less than fifteen weeks. Students can click on the Course Reference Number (CRN) on the class schedule website to view specific deadline dates for each course(s). Students can also contact the Registration Office (registration@wayne.edu) for any questions regarding these regulations.
2. Students who do not officially drop their courses within the first two weeks of classes are financially obligated to pay for the courses even if they have not attended any class sessions.
3. Students who officially drop full term courses before the conclusion of the first two weeks of classes (for the Fall and Winter terms) are entitled to 100% tuition cancellation, and the courses do not appear on the students' academic records.
4. Students 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 on the academic record of 'WP' - Passing, 'WF' - Failing, or 'WN' - 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 Academica for their instructors' approval for withdrawals processed after the fourth week of the term. Once logged into Academica, click the Student tab, under Registration from the Student Services menu, choose Withdraw from a Class, follow the prompts on each page. Before a withdrawal request is sent to the instructor, undergraduate and Masters level students will be required to complete a SMART Check. See the Financial Aid website (<http://wayne.edu/financial-aid/receiving/withdrawal>) for more information.
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 and registration calendar. Withdrawal dates for less than full term courses are adjusted proportionally. Late withdrawal requests will not be approved. Medical withdrawal requests have separate deadlines.

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

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

University Grading System

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

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 per credit hour
A-minus		3.67 per credit hour
B-plus		3.33 per credit hour
B	Good	3.0 per credit hour
B-minus	Below Graduate Standards	2.67 per credit hour
C-plus	Below Graduate Standards	2.33 per credit hour
C	Below Graduate Standards	2.0 per credit hour
F	Failure	0 per credit hour
M	Marginal Pass in designated courses such as field work, practicums and internships (not considered in calculation of 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 but courses completed with an 'S' grade may count toward a degree
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Marks

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

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

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

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

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 WP (Official Withdrawal Passing) is given when the student drops the course in accordance with University policy and the student had earned a passing grade as of the date the withdrawal is approved.

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 (Auditor) 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.

Change of Grades and Marks

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 Academics. 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.

Grade Point Average

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

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

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

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

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.

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

approval of the Director of Student Services of the Mike Ilitch School of Business.

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

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

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.

Transfer of Graduate Credits

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

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

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

Transcript Request Policy

Official transcripts bear the seal of the University and the signature of the Registrar. They are sent directly to the receiving party. Transcripts are issued free of charge, up to ten copies per year. A fee of \$5.00 per transcript is charged for copies in excess of ten. A fee of \$20.00 is assessed for each emergency transcript. An emergency transcript is one which is mailed for overnight delivery. The next day service only applies to

street addresses (No Post Office Boxes) within North America. Next day service requests must be received by 1:00 p.m.

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

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

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

Release of Student Records

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

Michigan's Freedom of Information Act

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

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

Student Directory Information

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

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

WSU OneCard

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

Student Academic Success Services Ombuds Office

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

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

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

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

Counseling and Psychological Services (CAPS)

552 Student Center Building; 313-577-3398, Fax: 313-577-9628
<http://caps.wayne.edu>

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

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

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

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

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
<http://studentdisability.wayne.edu/index.php>

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

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

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

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

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

Testing, Evaluation, and Research Services

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

Testing

We provide:

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

Evaluation

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

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

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

Research Services

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

Career Services

1001 Faculty/Administration Building; 313-577-3390; Fax: 577-4995
<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.

Military and Veterans' Academic Excellence Benefits (OMVAE)

1600 Adamany Undergraduate Library;
313-577-9180; Fax: 313-577-5020
<http://www.omvae.wayne.edu>

This office assists veterans, eligible dependents/survivors, reservists, National Guard and active-duty service 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), 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 OMVAE via an academic advisor the reason for enrollment (i.e., completing foundation courses for a master's-level program).

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

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

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

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

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

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 OMVAE for further details. No charge to benefit entitlement is incurred for the first six months received of Tutorial Assistance.

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

Veterans and their dependents are eligible for Michigan in-state tuition. The term "veteran" means a citizen of the United States or a resident alien whose most recent separation from any branch of the armed forces of the United States was under conditions other than dishonorable after having served on active duty for 90 consecutive days or more by reason of disability incurred while serving on active duty.

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

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

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

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

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

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

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

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

of a semester are encouraged to consider requesting Incomplete grades for coursework.

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

Tuition and Fees

Listed below are the tuition and fees 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 from the Office of the Registrar (<http://www.reg.wayne.edu/students/tuition.php>).

Tuition and Fees, Graduate

Business Administration, Engineering (except for Global Exec. Track of Industrial Engineering see below), and Library Science

Resident	\$741.62 per credit
Non-Resident	\$1,486.68 per credit

Education (except for Division of Kinesiology), Graduate School, Liberal Arts and Sciences, and Social Work

Resident	\$638.98 per credit
Non-Resident	\$1,384.04 per credit

Education (Division of Kinesiology) and Eugene Applebaum College of Pharmacy and Health Sciences

Resident	\$726.45 per credit
Non-Resident	\$1,471.51 per credit

Fine, Performing and Communication Arts

Resident	\$670.92 per credit
Non-Resident	\$1,415.98 per credit

Global Executive Track Doctoral Program in Industrial Engineering

Resident	\$1,484.24 per credit
Non-Resident	\$2,228.30 per credit

Law School (J.D. Program)

Resident Year 1	\$994.00 per credit
Resident Years 2, 3, and Unranked	\$975.47 per credit
Resident Year 4	\$937.95 per credit
Non-Resident Year 1	\$1,090.46 per credit
Non-Resident Years 2, 3, and Unranked	\$1,071.93 per credit
Non-Resident Year 4	\$1,030.70 per credit

M.D. Program

Resident Years 1 and 2	\$636.75 per credit
Resident Year 3	\$621.25 per credit
Resident Year 4	\$609.05 per credit
Non-Resident Year 1	\$1,148.00 per credit
Non-Resident Year 2	\$1,325.10 per credit
Non-Resident Year 3	\$1,292.80 per credit
Non-Resident Year 4	\$1,267.45 per credit

Medicine: Graduate Programs (excluding M.D.)

Resident	\$795.97 per credit
Non-Resident	\$1,502.66 per credit

Nursing

Resident	\$871.74 per credit
Non-Resident	\$1,616.80 per credit

Student Fees

Graduate/Professional Registration Fee

There is a \$297.29 registration fee, except that students enrolled in the Visitor Program shall pay half of the regular registration fee

Student Services Fee

Graduate students are assessed a \$51.38 fee per credit per term. Year 1 M.D. students are assessed \$24.60 fee per credit. Years 2 M.D. students are assessed a \$24.00 fee per credit. Year 3 and 4 M.D. students are assessed \$23.00 per credit hour. The Student Services Fee is used primarily to maintain, upgrade and replace student computing and technology resources on campus. A small portion is also used to fund student activities on campus, and to enhance programs directed toward improving on-campus activities, including athletics.

Doctoral Candidate Maintenance Fee

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 student 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 \$348.67 (equivalent to the Registration Fee plus the Student Services Fee for one graduate credit) and confers full-time registration status.

Application Fees

Admission Application Fee

Graduate applications and applications for the English Language Institute must be accompanied by a non-refundable \$50.00 fee. There is no application fee for members of the Alumni Association, their spouses and/or dependents, or for applicants sixty 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.

Application Fee, Law School

Applicants to the Juris Doctor (J.D.) program will pay a non-refundable application fee of \$50.00

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 (<http://www.classschedule.wayne.edu>)) must pay either a \$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.

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 unregistered 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 in the Schedule of Classes (<http://www.classschedule.wayne.edu>). The fee is automatically assessed. The fee may be canceled when a course is officially dropped within the tuition and fee cancellation period specified in each semester's term calendar. For additional information, contact the Department offering the course. Courses listed as having special fees require payment of the fee in addition to the tuition.

First Professional/Medicine Program Student Support Fee

Year 1 students in the First Professional Medicine Program pay a student support fee of \$860.50 per year. Year 2 students in the M.D. program pay a student support fee of \$839.50. Year 3 and 4 students in the M.D. program pay a student support fee of \$823.00. 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 \$200.00 for each one credit hour course and/or \$400.00 for each three credit hour course. (Note: These fees are in addition to any tuition and fees that are assessed by the University). 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 fee for students who apply for a degree or certificate. The fee does not apply to graduate students, law students and undergraduates who started in fall 2014 or after.

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 1:00 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 on or after these payment dates 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 (<http://fisops.wayne.edu/bursar/e-bills/eBill-Schedule.php>) on the Office of University Bursar's website.

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. All checks must be issued in U.S. dollars, and drawn

on or payable through a U.S. or Canadian bank. The student's name and University AccessID number should be written on the check or money order. Personal checks are not accepted on delinquent balances.

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. Installment payment plans allow students and/or parents to make payments in easy monthly installments. Students can enroll for the fall and winter semester or choose both as an annual plan. A plan is not offered for a spring/summer semester. The plans are offered through Tuition Management Systems (TMS) (<https://wayne.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. Tuition cancellation deadlines are available on the Registration Calendar (<http://reg.wayne.edu/students/registration-calendar.php>).

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 University Registrar is authorized to make adjustments in the application of the policies stated in this section when unusual circumstances warrant. Examples of circumstances which may warrant special consideration include: serious illness or death of the student or someone closely related, or mis-advisement by a University representative. Tuition cannot be canceled for reasons such as changes in work schedule or other employment demands, claims of lack of information, insufficient funds, unawareness of the difference between tuition and student financial aid, undocumented reasons, or for reasons

that are within the control of the student. Non-attendance, except for situations falling under the University non-attendance policy (below), is not in and of itself a reason for tuition and fee cancellation. Students (or an authorized representative in the case of death or serious illness) must submit their applications and supporting documentation to the Office of the Registrar. A medical withdrawal is a complete withdrawal from all courses, supported by medical reports from the attending physician. Requests for exceptions to tuition and fee policies must be submitted within approximately two months of the end of the term, as follows:

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

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

University Non-Attendance Policy

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

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

If the University cancels the class(es), or

If the University re-schedules the class(es) after the student has registered and (s)he is now unable to attend, or

If an authorized University representative has taken action which causes financial loss related to tuition, e.g., authorizing a student's schedule when the student does not have the necessary prerequisite(s).

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

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

Holds on Records

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

other supplies and equipment, and/or non-compliance with program, Departmental, School/College, or University regulations.

A 'Hold' will be placed on the records of any student who has past due indebtedness to the University. While the hold is in effect, registration for a subsequent term will not be permitted, official 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 may be canceled in accordance with the following schedule when students officially drop classes using the Academics on-line portal, by submitting a properly completed Register/Drop/Add form, or by sending a certified letter to the Office of the Registrar. A certified letter requesting to drop classes sent through the U.S. Postal Service shall be considered effective on the date it is received in the Office of the Registrar.

Students who officially drop classes before the conclusion of the first two weeks of classes (for the Fall and Winter 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.

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.

Tuition Regulations and Review Procedures

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

By establishing residence by presence in the State of Michigan;

By establishing attendance at Michigan high schools; or

By establishing military service status.

Establishing Residence by Presence in Michigan

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

Temporary Absences

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

Presence for Educational Purposes

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

Factors Considered in a Residence Classification

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

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

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

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

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

Factors Typically Not Supporting Residence Classification

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

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

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

For purposes of these regulations, the age of majority is eighteen years. Except as provided in paragraph "7" of this section, a minor does not have the capacity to establish his or her own legal residence. Normally, the legal residence of a minor follows:

1. That of the parents or surviving parent; or
2. That of the parent to whom custody of the minor has been awarded by a divorce or other judicial decree; or
3. That of the parent with whom the minor in fact makes his or her home, if there has been a separation without a judicial award of custody; or
4. That of an adoptive parent, where there has been a legal adoption, even though the natural parents or parent may be living; or
5. That of a "natural" guardian, such as grandparent with whom the minor in fact makes his or her home, where the minor has permanently left his or her parental home and reasonable expectation of substantial financial support from the parents has been dissolved. A natural guardian is someone who, although not legally the minor's parent or guardian, performs the same sort of parental duties.
6. If a Michigan resident parent or guardian of a minor moves his or her residence to another state, the minor shall remain eligible for resident tuition status as long as he or she continues to attend school regularly in this state.
7. A minor who has permanently left his or her parental home, and who has no reasonable expectation of significant financial support from his or her parents or legal guardian, etc., may qualify for resident status even if under eighteen years of age.

Non-U.S. Citizen

A non-U.S. citizen may apply for resident status in the same manner as a citizen, if he or she is in the United States for other than a temporary educational purpose. In order to demonstrate this, applicants must provide evidence from the U.S. Department of Citizenship and Immigration Services of one of the following:

1. A U.S. permanent resident alien with a green card.
2. An applicant for U.S. permanent residence whose Petition for Alien Relative, or Employment-based Immigration Petition for Alien Worker has been approved, or who has been issued an Employment Authorization document pending adjustment of status. These individuals will have documentation of this status such as an I-130 (Petition for Alien Relative) or I-140 (Immigration Petition for Alien Working) Approval Notice, or an I-151 or I-551 Notice of Action indicating approval of petition to become an immigrant.
3. An alien with a current valid visa type issued for purposes of working in the United States, and currently working in the State of Michigan. These currently include visa types of A, E, G, H, I, L, R, and TN.

4. An Alien granted asylum or refugee status.

Attendance of Michigan High Schools

An individual may be eligible for in-state tuition on the basis of high school attendance if he or she demonstrates that he or she:

1. Attended an accredited Michigan high school for at least three years and thereafter graduated from an accredited Michigan high school or obtained his or her GED in Michigan; and
2. Enrolls at Wayne State University within twenty-eight months of graduating from high school or obtaining a GED.

An individual does not need to be a legal resident of Michigan or a citizen of the United States to qualify for in-state tuition on the basis of attendance at Michigan schools.

Military Service

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

Veterans and their dependents are eligible for Michigan in-state tuition. The term "veteran" means a citizen of the United States or a resident alien whose most recent separation from any branch of the armed forces of the United States was under conditions other than dishonorable after having served on active duty for 90 consecutive days or more or by reason of disability incurred while serving on active duty.

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

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

Good Neighbor Provisions

Residents of Fulton, Lucas, Ottawa, and Williams counties in Ohio, or residents of Ontario, Canada, who are enrolled in eligible graduate programs will pay in-state tuition. WSU Tuition and Fee Regulations published each academic year identify specific academic programs eligible for this provision.

Great Lakes Policy (Undergraduate Only)

Residents of the states of Ohio, Indiana, Illinois, Wisconsin, Minnesota, New York, or Pennsylvania, or the province of Ontario, Canada, who are enrolled in eligible undergraduate programs and who are not eligible for the Good Neighbor Policy may pay tuition and fees at 110% of the then-current in-state rate.

Online Programs

Students enrolled in programs which are offered online in their entirety will have the out-state portion of their tuition waived. WSU Tuition and Fee Regulations published each academic year will identify the specific academic programs eligible for this provision.

Review Procedures

Initial Classification and Appeal

1. The student is responsible for registering under proper residence or tuition status and advising the University of changes in circumstances, which might affect tuition status. Questions concerning a student's residence or tuition status prior to enrollment should be raised with the Office of Admissions. Questions arising after enrollment should be raised with the Registrar's Office.
2. After enrolling, a student may challenge the initial classification made by the Office of Admissions by filing an Application for Residence Classification or Change in Tuition Status with the Registrar's Office.
3. Except for documented delays caused by University personnel, such applications must be filed by:

September 30 for the Fall semester and the Medical Year semester

January 31 for the Winter semester

July 31 for the Spring/Summer semester

Deadlines falling on weekends or on days when the University is closed will be extended to the next business day. Applications received after these dates will be processed for the following semester.

Further Appeal

A student may appeal the initial tuition decision as follows:

1. By filing a written notice of appeal with the Registrar within thirty (30) days after the student is notified of the classification decision. The notice of appeal shall include reasons for the appeal, the period for which resident status is claimed, and a complete statement of the facts on which the appeal is based, together with supporting affidavits or other documentary evidence. Failure to file notice within thirty (30) days shall constitute a waiver of any right to further appeal. The student has the right to consult the University Ombuds Office at any time, and the student may particularly want to utilize the Ombudsperson's services at this point in the review procedures.
2. A student may appeal the Registrar's decision by filing a written notice of appeal with the Office of the General Counsel within fifteen (15) days from the date of the Registrar's decision. Failure to file written notice of appeal of the Registrar's decision with the Office of the General Counsel within fifteen (15) days shall constitute a waiver of any right to further appeal.
3. A student may appeal the decision of the Office of the General Counsel within fifteen (15) days with the Office of the President. Failure to file written notice of appeal of the General Counsel's decision with the Office of the President within fifteen (15) days shall constitute a waiver of any right to further appeal. After the notice of appeal, the President or his designee shall review the student's appeal and render a final decision.

Erroneous Classification

1. If an erroneous classification of non-residence occurs, an adjustment for the appropriate period and amount will be made.
2. If an erroneous classification of residence occurs, the student shall be reclassified as a non-resident student. If the cause of his or her incorrect classification shall be found to be due to any material concealment of facts or false statement made by the student before the time of the original classification, the student will be required to pay all tuition and fees which would have been charged to him or her and also will be subject also to appropriate discipline in accordance with University Student Code of Conduct. If it is determined that there

is no such concealment of facts by the student, fees shall be adjusted only for current and future semesters.

Effective Dates of Residence Regulations

Amended statute as adopted on September 20, 2013, will be effective for the Winter Semester 2014.

University Libraries and Archives

Office: 3100 David Adamany Undergraduate Library

Tel.: 313-577-4023; Fax: 313-577-5525

Dean of University Libraries: Sandra Yee

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

The University Libraries support the education, research and service missions of the University and its communities through comprehensive, high-quality resources, services and programs. The Libraries are leaders in providing accurate and timely information to Wayne State University as well as the metropolitan Detroit area and Michigan. Scholarly materials in the University Libraries offer total more than three million volumes, over 56,000 journal titles and a broad range of electronic resources, including and electronic journals and over 800,000 e-books, all available through the Libraries' website.

The Library System includes the David Adamany Undergraduate Library, the Arthur Neef Law Library, the Purdy/Kresge Library, the Vera P. Shiffman Medical Library and its Learning Resource Center at the Eugene Applebaum College of Pharmacy and Health Sciences, the Walter P. Reuther Library of Labor and Urban Affairs and University Archives and the Library Services Centers at the Oakland Center in Farmington Hills and Macomb Center in Clinton Township. The School of Library and Information Science and the Detroit Area Library Network (DALNET) are also under the Library System's charge.

The University Libraries offer in-person and online reference and research support, inter-library loan, circulation and course reserve services, document delivery and library and information literacy programs. The latest information technologies provide state-of-the-art access to instructional and research materials. The libraries provide silent and collaborative study spaces, including a 24-hour facility, as well as classroom support to over 300 general purpose classrooms throughout campus.

David Adamany Undergraduate Library (<http://www.lib.wayne.edu>)

The David Adamany Undergraduate Library (UGL) is designed to enhance the learning experience of undergraduate students by helping them to master the research skills necessary for academic success. The UGL offers three floors of open, collaborative space for study as well as hundreds of computers for student use. The library features four instructional labs, collaborative study rooms, course reserves and the Student Technology Studio offers hands-on opportunities for learning to use multimedia and electronic information resources. The Extended Study Center provides 24-hour access to nearly 170 student computers and is the home of the Library Computing Help Desk, which serves the needs of students and staff in the libraries. The UGL also houses Student Academic Success Services, which includes the Academic Success Center, Student Disability Services and the University Advising Center, the Writing Center and the Irvin D. Reid Honors College.

Purdy/Kresge Library (<http://www.lib.wayne.edu>)

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 library provides access to over sixty computers as well as ample study space in a traditional library atmosphere.

The Purdy/Kresge Library houses a book collection of over 1.5 million volumes, an extensive microform collection, a large document collection and a number of special collections including the Leonard Simons Collection of rare Michigan history texts, the Arthur L. Johnson Endowment collection, and the Ramsey Collection of Children's Literature. This library is also the home of the 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.

Arthur Neef Law Library (<http://www.lib.wayne.edu/lawlibrary>)

Located at the north end of the University's main campus, Wayne State University's Arthur Neef Law Library offers researchers a comprehensive legal research center. Its collection of more than 620,000 print and microform equivalent volumes, plus an expansive collection of e-books, databases and other digital resources makes it a leading legal research facility in the State of Michigan. The Law Library is also a depository for U.S. government publications and for the records and briefs filed with the Michigan Supreme Court.

Shiffman Medical Library and Learning Resources Centers (<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. A Learning Resources Center focused on the daily information and computing needs of students of the Applebaum College is available Monday through Friday.

Walter P. Reuther Library of Labor and Urban Affairs and University Archives (<http://www.reuther.wayne.edu>)

The archival collections held in the Walter P. Reuther Library cover a variety of topics, organizations, and individuals. In all, the Reuther Library has more than 95 million documents, 20,000 books, monographs, union publications and proceedings, 2 million photographic images; and 20,000 audio and moving image recordings. Due to issues of format, size, and security, the collection stacks are not open to the public and researchers work with these materials in the Reuther reading room during established hours of business.

The Reuther Library has an international reputation as the largest labor archives in the world and additionally holds significant collections relating to social and urban affairs in the metro Detroit area. It collects and preserves records of the American labor movement, related social,

economic, and political reform groups, and twentieth century urban America. The Reuther Library has since become the official depository for the inactive files of several labor unions and organizations, including the United Auto Workers, the American Federation of Teachers, the National Association of Letter Carriers, The Newspaper Guild, the United Farm Workers, the Service Employees International Union, the American Federation of State, County and Municipal Employees, the Air Line Pilots Association, the Association of Flight Attendants, the Industrial Workers of the World, the Society of Women Engineers, and many state and local organizations. Records have also been received from urban and civil rights groups as the Citizens Crusade Against Poverty, the Michigan Chapter of the American Civil Liberties Union, the Detroit Branch of the National Association for the Advancement of Colored People, the United Community Services of Detroit, United Way for Southeastern Michigan, and New Detroit, Inc. A unique portion of the holdings is a labor journal and newspaper collection, which has nearly 1,600 current and non-current titles dating from the late 1800s to the present. Many individuals who played leading roles in labor and urban affairs have also placed their papers in the Reuther Library.

The Reuther Library also houses the Wayne State University Archives which provides historical information about WSU and its predecessor institutions that date to 1868. In addition to collecting the University's historical records, the WSU Archives holds the papers of presidents and administrative leaders, the papers of selected faculty members, and the papers of student and professional organizations that document the development of the University and higher education in Michigan. The WSU Archives also collects all publications created by and pertaining to the University, including the student newspaper from 1917 to present, as well as departmental newsletters. Subjects in the collection range from student activities such as athletics and student organizations, to local subjects such as Central High School, the Detroit Medical Center, and the Detroit Board of Education.

University Policies

University Equality of Opportunity Policy

Wayne State University is committed to a policy of non-discrimination and equal opportunity in all of its operations, employment opportunities, educational programs and related activities.

This policy embraces all persons regardless of race, gender, color, sex (including gender identity), national origin, religion, age, sexual orientation, marital status, familial status, disability, arrest record, weight, qualified Vietnam era veterans, qualified special disabled veterans, recently separated veterans and other protected veterans, or any other characteristic protected by applicable federal or state law. It expressly forbids discrimination, sexual harassment or any form of harassment in hiring, terms of employment, tenure, promotion, placement and discharge of employees, admission, training and treatment of students, extra-curricular activities, the use of University services, facilities and in the awarding of contracts.

This policy also forbids retaliation and/or any form of harassment against an individual as a result of filing a complaint of discrimination or harassment, or participating in an investigation of a complaint of discrimination or harassment.

Wayne State University, as an equal opportunity/affirmative action institution, complies with all applicable federal and state laws regarding non-discrimination and affirmative action. In furtherance of this policy, the University is also committed to promoting institutional diversity to achieve full equity in all areas of University life and service and in those private clubs and accommodations that are used by University personnel. No off-campus activities sponsored by or on behalf of Wayne

State University shall be held in private club facilities or accommodations which operate from an established policy barring membership or participation on the basis of race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability or veteran status. Affirmative action procedures, measures and program may be used to the extent permitted by law to establish, monitor and implement affirmative action plans for all budgetary units and the University as a whole.

Inquiries regarding equal opportunity Academic/Administrative policies or complaints may be made to:

Office of Equal Opportunity
4324 Faculty/Administration Building
Wayne State University
Detroit, Michigan 48202
Telephone: 313-577-2280
or <http://www.oeo.wayne.edu>

Disability Non-Discrimination Policy

In accordance with federal requirements of the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973, there shall be no discrimination on the basis of disability in Wayne State University's programs, operations and activities, in the hiring, terms and conditions or privileges of employment or any matter directly or indirectly related to such employment, or in the admission, education and treatment of students. The Student Disability Services Office (<http://studentdisability.wayne.edu>) has complete information on services available to students.

Drug and Alcohol Free Workplace Policy

Wayne State University is committed to providing a drug-free environment for its faculty, staff, and students. The Board of Governors has made this commitment a formal policy of the University. All faculty, staff and students must abide by the terms of the Board policy as a condition of employment or enrollment at the University. The unlawful possession, use, distribution, sale or manufacture of drugs or alcohol is prohibited on University premises, at University activities, and at University work sites.

Pursuant to that policy, the unlawful possession, use, distribution, dispensation, sale or manufacture of any illicit drugs, and the unlawful possession, use or distribution of alcohol on University property, or at any University work site, or as part of any University activity, is prohibited.

Any employee or student employee who is convicted of a criminal drug offense occurring at the workplace is subject to appropriate employee discipline in accordance with established University policies and collective bargaining agreements, and may be required to participate satisfactorily in a drug abuse or rehabilitation program as a condition of further employment or enrollment.

Any student or employee who, while on University premises or at any University activity, engages in the unlawful possession, sale, manufacture, distribution, or use of drugs or alcohol shall be subject to appropriate sanctions, in accordance with established University policies, the Student Code of Conduct, and collective bargaining agreements, and in conformity with local, state and federal law, up to and including expulsion or termination.

The University encourages employees who may have a problem with the use of illicit drugs or with the abuse of alcohol to seek professional advice and treatment. Individuals who seek assistance with such problems may obtain additional information on a confidential basis by telephoning the Employee Assistance Program (EAP) at 1-800-448-8326.

Students may also seek referral assistance by contacting University Counseling and Psychological Services (CAPS), at 313-577-3398.

Policy Governing the Use of Alcoholic Beverages on Campus

The use or possession of alcoholic beverages is expressly prohibited in classrooms, lecture halls, laboratories, the libraries, the chapel and within buildings or arenas where athletic events, lectures, and concerts are held. The use of alcoholic beverages is expressly prohibited in all public areas of campus buildings except as follows: the use of alcoholic beverages, subject to State law, is permitted in areas designated by, and with the approval of, the Office of the President, and the use of alcoholic beverages at student social events, subject to State law, is permitted in areas designated by, and with the approval of, the Office of the President.

Sexual Discrimination, Harassment, and Assault Policy

Title IX of the Education Amendments of 1972 is a federal civil rights law that prohibits discrimination on the basis of sex in education programs and activities. Under Title IX, discrimination on the basis of sex can include sexual harassment or forms of sexual assault, such as rape, sexual assault or sexual battery.

Sexual discrimination is prohibited by Title IX and by University Policy. (WSU Statute 2.28.01).

Sexual harassment is a form of sex discrimination that is prohibited by Title IX and by University policy. It is the policy of Wayne State University that no member of the University community may sexually harass another. (WSU Statute 2.28.06).

Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct or communication of a sexual nature when:

1. Submission to such conduct or communication is made a term or condition either explicitly or implicitly to obtain employment, public accommodations or public services, education, or housing.
2. Submission to or rejection of such conduct or communication by an individual is used as a factor in decisions affecting such individual's employment, public accommodations or public services, education, or housing.
3. Such conduct or communication has the purpose or effect of substantially interfering with an individual's employment, public accommodations or public services, educational, or housing environment, or creates an intimidating, hostile or offensive employment, public accommodations, public services, educational or housing environment.

In the area of speech, what the law and this policy prohibit is speech as action: that is, sexual communication which is either directly coercive as demanding favors, or indirectly coercive, as rising to that level of offensiveness which interferes substantially with the victim's education or employment. The determination of what level of offensiveness is actually coercive, and therefore unlawful and prohibited by this policy, will in some cases be difficult. A significant element in the determination is provided by the fact that an unequal power relationship underlies sexual harassment. The more unequal the relationship, the greater the risk is of substantial interference with the victim's education or employment.

In the area of physical contact, physical contact which is unwelcome is so gravely offensive that it always has the effect of substantially interfering with the victim's employment or educational environment. Employees and students should not take for granted that they are

welcome to touch other employees or students, since if their contact is in fact unwelcome, they will be in violation of the law and of this policy. (WSU Statutes 2.28.06.010-2.28.06.080).

Sexual harassment is also unwelcome behavior of a sexual nature that creates a hostile or abusive work or educational environment. Sexual harassment is also unwelcome behavior of a sexual nature that is severe or pervasive and interferes with an individual's work or performance in a course or program

Sexual assault is also prohibited by Title IX and by University policy (01-5 University Policy). Sexual assault includes, but is not limited to any of the following:

1. Any intentional, unconsented, unwelcome physical contact or threat of unwelcome physical contact or attempt thereof, of:
 - a. an intimate body part of another person, such as a sexual organ,
 - b. any body part of another person with one's sexual organs, or
 - c. any part of another person's body with the intent of accomplishing a sexual act; or
2. Unwanted, inappropriate disrobing of another person, or purposeful exposure of one's genitals to another without the other's consent; or
3. Forcing, or attempting to force, any other person to engage in sexual activity of any kind without her or his consent; or
4. Any behavior that is proscribed as "criminal sexual conduct" under the Michigan Penal Code, notwithstanding whether criminal charges have been brought against the individual alleged to have engaged in such behavior. This may include rape, attempted rape, sexual assault or sexual battery.

Date rape and acquaintance rape are forms of sexual assault.

For purposes of the University's statutes/policies on sexual discrimination, sexual harassment and sexual assault, consent shall not be deemed to have occurred if given by a person who is unable to make a reasoned judgment concerning the nature or harmfulness of the activity because of his or her intoxication, unconsciousness, mental deficiency or incapacity, or if the product of threat or coercion. (WSU Statute 2.28.06.060).

Any employee or student will be subject to disciplinary action for violation of any of these policies. If any staff, faculty or student of the University community learns of a sexual discrimination, harassment or assault incident, they should immediately report that incident to either the Title IX Coordinator or the Deputy Coordinator, who are:

Linda Galante, Esq. - Interim Title IX Coordinator
Associate General Counsel
4259 Faculty Administration Building
656 W. Kirby Avenue
Detroit, Michigan 48202
Telephone: 313-577-2280
Fax: 313-577-7738
Email: lgalante@wayne.edu

Dean David Strauss - Deputy Title IX Coordinator
Dean of Students
351 Student Center
Detroit, Michigan 48202
Telephone: 313-577-1010
Email: ak3096@wayne.edu

The Title IX Coordinator's responsibilities include overseeing all Title IX complaints, identifying and addressing any patterns or systemic problems that arise during the review of such complaints, and coordinating the training, education, communication and administration

of grievance procedures for faculty, staff, students and other members of the University community.

The Deputy Coordinator is responsible for Title IX compliance for matters involving students, including training, education, communication and administration of grievance procedures for all complaints against WSU students.

Students or employees having a complaint against a WSU student for sexual harassment, sex discrimination or sexual assault, should contact the Deputy Coordinator by phone or email or file a Student Care Report available on Dean of Students' website (<http://www.doso.wayne.edu>). Any such complaint can also be filed with the Title IX Coordinator.

The University statutes/policies prohibiting discrimination and sexual harassment/sexual violence can be found on the Board of Governors' website (<http://www.bog.wayne.edu/code>) and among the general university policies (<http://policies.wayne.edu>). These are also posted by the Office of Equal Opportunity (<http://www.deo.wayne.edu>) and the Dean of Students Office (<http://www.doso.wayne.edu>). The purpose of these policies is to assure the fullest possible awareness of WSU's stand on sexual discrimination/harassment/assault and to confirm and regularize WSU's procedures regarding the handling of complaints.

Additional Resources

In addition to filing a complaint with the Title IX Coordinator or Deputy Coordinator, in instances involving rape, sexual assault or sexual battery, students and/or employees should also contact the WSU Police Department at:

6050 Cass Avenue
Detroit, Michigan 48202
Emergency telephone: 313-577-2222
Non-emergency telephone: 313-577-2224
<http://www.police.wayne.edu>

Violence in the Workplace Policy

Wayne State University is committed to providing a work and educational environment that is free from threats, assaults, or acts of violence. Threats of violence or of physical harm, and any form of physical or sexual assault or threats of physical assault are prohibited. This includes conduct that harasses, disrupts, or interferes with another person's work performance or creates an intimidating, offensive or hostile work or educational environment.

The University has also adopted a Campus Safety Ordinance (WSU Statute 2.87.03) which applies to all property owned, leased or otherwise controlled by Wayne State University and applies to all individuals when present on such property, regardless of whether the individual has a concealed weapons permit or is otherwise authorized by law to possess, discharge or use any device referenced in therein. The ordinance states that no person shall, while on any property owned, leased, or otherwise controlled by WSU:

1. possess or carry on his or her person any firearm, explosive or chemical weapon;
2. carry on his or her person any sword, switchblade knife, or other knife with a blade longer than three inches; and
3. carry on his or her person any other object or device with the intent of intimidating or injuring another person.

Upon conviction of any violation of this ordinance, the violator shall be sentenced to a fine not to exceed \$500.00. In addition, violations of this policy may result in disciplinary action under existing University administrative policies. Limited exceptions to this policy exist for

University employees expressly authorized to possess or use such weapons, devices or substances, law enforcement officials so authorized, and any individual whose possession or use is in connection with a research or regularly scheduled educational program authorized by the University, for which the Chief of the Wayne State University Police Department has been given at least one week's advance notice.

University personnel are expected to notify appropriate management personnel of any violent or threatening behavior, when that behavior is work-related, carried out on University property, or is connected to University employment. Any individual who has obtained a personal protection order that identifies the workplace as a protected area should provide that information to the Wayne State University Police Department.

MIKE ILITCH SCHOOL OF BUSINESS

Dean: Robert Forsythe

The Mike Ilitch School of Business is a professional school concerned with the theory and practice of business 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 Mike Ilitch School of Business 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.

Mission Statement

Our mission is to prepare our students for challenging and rewarding careers, advance the boundaries of scholarly and practitioner knowledge, and enhance the economic vitality of the city of Detroit, the state of Michigan and beyond through our programs, research and community engagement.

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; post-bachelor certificates in accounting and information systems management are also offered. For additional undergraduate information, consult the Wayne State University Undergraduate Bulletin.

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 possible 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 program leading to the Graduate Certificate in Business is designed to equip non-business degree holders with relevant business knowledge pertaining to the daily operations of business in corporate, non-profit and entrepreneurial settings. The program requires a minimum of thirteen credits. Courses are offered in the late afternoon and evening or online.

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.

Accreditation

Mike Ilitch School of Business programs are accredited as follows:

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

Academic Regulations for the Mike Ilitch School of Business

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) of this bulletin. The following additions and amendments pertain to the Mike Ilitch School of Business. Graduate students are advised that, in addition to the policies, procedures, and rules specified by the Mike Ilitch School of Business, other regulations and requirements of Wayne State University's Graduate School may apply.

The Graduate Programs Office is responsible for credential evaluation, admissions processing, advising, and graduation certification of business administration graduate students. In addition, personnel prepare and distribute the Plan of Work for students enrolled in graduate programs. Any student seeking academic, vocational or personal counseling should make an appointment to see a member of the counseling staff: 313-577-4511.

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 Mike Ilitch School of Business.

Advisors

No credit will be allowed for concentration courses taken below the 7000-level or courses taken outside of the Mike Ilitch School of Business 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 Graduate Programs Office at 313-577-4511.

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 (<https://wayne.edu/commencement/apply-for-graduation>).

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.

For more information, please reference the University Code of Conduct (<http://doso.wayne.edu/assets/codeofconduct.pdf>) or the Mike Ilitch School of Business Code of Ethics.

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 (BA 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 prerequisite 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 Graduate Programs Office at 313-577-4511.

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 credits of directed study course work to a Mike Ilitch School of Business 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 programs, 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 Mike Ilitch School of Business 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 electives 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 Mike Ilitch School of Business's grade appeal procedure is available in the Graduate Programs Office, 103 Prentis Building, and on the School's website (<http://ilitchbusiness.wayne.edu>).

Non-grade-related grievances should be brought directly to the appropriate departmental chairperson or to the Graduate Programs Office. Additionally, the University Ombudsperson (p. 20) 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

The Mike Ilitch School of Business offers online sections of some courses available to Traditional M.B.A. students. Students who enroll in online 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 Graduate Programs Office, 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 Mike Ilitch School of Business. **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 Graduate Programs Office. The School reserves the right to re-validate credits which are over-age. In re-validation cases, the Graduate Committee will set a terminal date for completion of all

degree requirements, including such additional requirements as may be prescribed to re-validate 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 'Bminus' 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 BA 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 the Drop/Add procedures (p. 51).

Graduate Programs

- Business Administration (M.B.A.) (p. 72)
- Business Administration and Law (M.B.A./J.D. Joint Degree) (p. 77)
- Accounting (M.S.A.) (p. 70)

- Taxation (M.S.T.) (p. 78)
- Business Administration (Ph.D.) (p. 76)
- Business (Graduate Certificate) (p. 72)
- Information Systems Management (Post-Bachelor's Certificate) (p. 78)
- Accounting (Post-Bachelor's Certificate) (p. 71)
- AGRADE - Accelerated Graduate Enrollment (p. 71)

Accounting (M.S.A.)

Admission Requirements

Admission to any graduate program is contingent upon admission to the Graduate School (p. 17). 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) (p. 72).
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. Final approval of the applicant's admission to graduate study in accounting is authorized by the Dean of the Mike Ilitch School of Business 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 Programs, Mike Ilitch School of Business. A copy of the guidelines for formal appeals is available in the School's Graduate Programs Office, 103 Prentis.

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.

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. Additional foundation coursework may also be required prior to starting the thirty credits of final-program coursework. Degrees are granted upon recommendation of the faculty of the Mike Ilitch School of Business. 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 Mike Ilitch School of Business governing graduate scholarship and degrees; see the sections beginning under Academic Regulations (p. 12) and Academic Regulations for the Mike Ilitch School of Business (p. 67), 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 seven 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 electives in their place.

Elective Courses are two 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 (M.S.A.)

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 three courses:

ACC 7040	Intermediate Financial Accounting I	3
ACC 7050	Intermediate Financial Accounting II	3
BA 7000	Managerial Accounting	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 (BA 7000, ACC 7040 and ACC 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 (M.S.A.) (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 7115	Financial Statement Analysis	3
ACC 7120	Introduction to Taxation: Individuals	3
ACC 7130	Intermediate Managerial Accounting	3
ACC 7145	Accounting Systems: Design and Controls	3

ACC 7180	Auditing	3
ACC 7300	Accounting and Tax Research and Professional Communications	3
ACC 7310	Business and Professional Ethics for Managers and Accountants	3
Total Credits		21

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 (M.S.A.)

(Six Credits)

A minimum of two electives chosen from accounting 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

Select six credits of the following:		6
ACC 7122	Advanced Accounting I	
ACC 7148	ERP Systems and Business Integration	
ACC 7155	Forensic Accounting	
ACC 7165	Internal Audit I	
ACC 7170	International Accounting	
ACC 7188	Governmental and Not-for-Profit Accounting	
ACC 7190	Advanced Auditing	
ACC 7320	Introduction to Taxation: Business Entities	
ACC 7325	Advanced Tax Research and IRS Procedures	
ACC 7335	Taxation of Corporations and Shareholders	
ACC 7340	Taxation of Pass-Through Entities	
ACC 7400	Taxation of International Business and Multinational Transactions	
ACC 7410	Tax Accounting Methods and Accounting for Income Taxes	
ACC 7420	Taxation by State and Local Jurisdictions	
ACC 7450	Taxes and Business Strategy	
ACC 7990	Internship in Accounting or Tax Practice	
ACC 7995	Directed Study in Accounting	
BLW 7210	Business Law for Entrepreneurs	
BLW 7220	Law of Corporate Management and Finance	
Total Credits		6

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 prior approval from the M.S. in Accounting Committee.

Capstone Requirement (M.S.A.)

ACC 7998, Seminar in Tax and Accounting Policy, is the capstone course for all M.S.A. 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.

Accounting (Post-Bachelor's Certificate)

The post-baccalaureate certificate program in accounting is designed to enable students who already hold a bachelor's degree in business administration or accounting to obtain the required educational background to be licensed as a Certified Public Accountant in Michigan.

Admission Requirements

Students must have a bachelor's degree from an accredited institution, with a grade point average of at least 2.0.

Students who have received their undergraduate degree from Wayne State University should process a change in their status at the Registrar's Office to 'Post-Baccalaureate.' Students who have received an undergraduate degree in these areas from another institution must complete the Application for Undergraduate Admission form and request that official transcripts be sent directly to the Office of Admissions.

Candidates for this certificate must successfully complete a minimum of twenty-four credits in course work at Wayne State University following completion of the bachelor's degree, with a cumulative grade point average of not less than 2.0. Of these twenty-four credits, students must complete a minimum of six credits from courses offered by the Department of Accounting. Additionally, a minimum of twelve credits must be from courses offered within the School (Accounting, Finance, Information Systems, Marketing, and Management). Students, who have not completed ACC 3010 and ACC 3020 (or equivalent courses), must complete ACC 3010 and ACC 3020 in addition to the minimum twenty-four credits required for the Certificate.

Each student's *Plan of Work* will be individually designed. Students intending to use this certificate to meet the requirements for licensure as a Certified Public Accountant in Michigan will work with their advisor to ensure that the courses chosen meet the requirements of the licensing body.

AGRADE - Accelerated Graduate Enrollment

The Mike Ilitch School of Business has established an accelerated combined undergraduate and graduate program ('AGRADE') whereby qualified students in the Mike Ilitch School of Business may enroll simultaneously in undergraduate and graduate courses of the School. A maximum of twelve credits may be applied towards both undergraduate and graduate degrees in a student's major field if the major department is an AGRADE participant. Those who elect the 'AGRADE' program may expect to complete the Bachelor's and Master's degrees in five years of full-time study.

Eligibility: 'AGRADE' applicants must have an overall g.p.a. of 3.5 through their junior year. Applicants are also expected to have performed at a superior level in their major, as determined by the major department and reflected in a g.p.a. in the major of at least 3.6 at the time of application.

Application: A student seeking 'AGRADE' status should present to the Mike Ilitch School of Business Graduate Programs Office all of the materials which that department requires for normal graduate admission, EXCEPT for the GMAT or Graduate Record Examination (GRE). Specific graduate admission requirements can be found in this bulletin or obtained from the Graduate Programs Office of the Mike Ilitch School of Business at 313-577-4511.

The earliest date by which a student may apply for the 'AGRADE' program is during the semester in which he/she completes ninety credits toward the undergraduate degree.

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

Courses Approved for AGRADE:

Take no more than four courses or 12 credits from any one of the following program areas.

Finance		
FIN 7000	Applied Financial Analysis	3
FIN 7220	Advanced Managerial Finance	3
FIN 7230	Investment Policies	3
FIN 7280	Entrepreneurial Finance and Venture Capital	3
FIN 7290	Topics in Finance	3
FIN 7870	International Finance	3
Global Supply Chain Management		
GSC 7620	Global Supply Chain Management	3
GSC 7650	Strategic Procurement	3
GSC 7670	Special Topics in Supply Chain Management	3
GSC 7991	Principles of Quality Management	3
GSC 7992	Methods of Quality Management	3
Information Systems Management		
ISM 7510	Database Management	3
ISM 7520	Information Systems Design	3
ISM 7530	Societal and Ethical Issues in the Information Age	3
ISM 7560	Survey of E-Commerce	3
ISM 7570	Data Mining	3
ISM 7575	Corporate Computer Networks and IT Security	3
ISM 7900	Project Management	3
ISM 7994	Digital Content Development	3
Management		
MGT 7640	Management of Human Resources	3
MGT 7650	Strategic Human Resource Management	3
MGT 7660	Entrepreneurial Management	3
MGT 7750	Labor Relations and Collective Bargaining	3
MGT 7900	Project Management	3
MGT 8000	Seminar in Management	3
Marketing		
MKT 7150	Global Automotive Marketing Strategy	3
MKT 7430	Advertising Management	3
MKT 7450	Business Research and Methodology	3
MKT 7470	Consumer and Industrial Buying Behavior	3
MKT 7500	International Marketing Strategy	3
MKT 7700	Management of Retail Enterprises	3

For more details about the 'AGRADE' program, contact the Undergraduate Student Services office in Room 200 of the Prentis Building or by calling 313-577-4505, or contact the Graduate Programs Office at 313-577-4511 or email gradbusiness@wayne.edu

Business (Graduate Certificate)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, applicants must have earned a minimum g.p.a. of 3.0 in their undergraduate/graduate program. Applicants who already have a business or related degree are not eligible.

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		
BA 6000	Introduction to Accounting and Financial Reporting	2
BA 6005	Basics of Financial Management	2
BA 6015	Marketing Foundations	2
BA 6020	Contemporary Principles of Management	2
Foundation Electives		
Select one of the following:		2
BA 6010	Basics of Business Economics	
BA 6025	Basics of Production/Operations Management	
BA 6090	Quantitative Analysis: Theory and Application	
Functional Electives		
Select one of the following:		3
BA 7000	Managerial Accounting	
BA 7020	Corporate Financial Management	
BA 7040	Managing Organizational Behavior	
BA 7050	Marketing Strategy	
BA 7070	Social Perspectives on the Business Enterprise	
Total Credits		13

Business Administration (M.B.A. Program)

Admission (M.B.A.)

Admission to any graduate program is contingent upon admission to the Graduate School (p. 17). 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 Programs, Mike Ilitch School of Business. Guidelines for formal appeals are available in the Mike Ilitch School of Business's Graduate Programs Office, room 103 Prentis Building.

Graduate Management Admission Test (GMAT)

The 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 analytical writing and integrated reasoning sections administered by a computer. The Educational Outreach Office offers a preparation course for the GMAT (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 (<http://mba.com>) and on GMAT's website (<http://gmac.com>).

Most prospective graduate business students will take the GMAT or GRE for admissions, although the School of Business does offer GMAT/GRE waivers to highly qualified applicants. This is generally defined as those applicants who meet one of the following criteria:

1. Acceptable score on the Graduate Record Examinations (GRE), Law School Admission Test (LSAT) or Medical College Admission Test (MCAT) entrance exam.
2. GPA of 3.0 or higher from an AACSB-accredited business program (or GPA of 3.2 or higher from a regionally-accredited university in any major) OR at least three years of relevant professional experience that shows increased responsibility over that period.

Please contact the Graduate Programs Office for more information on GMAT waivers or equivalency requirements

Application

A completed Application for Graduate Admission (<http://wayne.edu/admissions/graduate>), 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.

Candidates for the Master of Business Administration degree must complete thirty-six credits in final-program course work with a minimum grade point average of 3.0. Additional foundation course work may be required prior to beginning the thirty-six final-program credits.

Degrees are granted upon the recommendation of the faculty of the Mike Ilitch School of Business. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the Mike Ilitch School of Business (p. 67) governing graduate scholarship and degrees.

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

- electives and/or concentrations

Depending on the student's academic background, there may be no foundation courses or as many as seven foundation courses required. All students must complete six core courses. Students must also choose six elective courses which can be used as part of a general curriculum. Students in the Traditional M.B.A. program may select electives that apply toward the completion of one or more of the concentrations as listed on the "Concentrations" tab.

Foundation Requirements (M.B.A.)

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 Graduate Programs Office, 103 Prentis Building.) A cumulative grade point average of 3.00 ('B') is required for foundation requirements and no individual grade below 2.0 ('C') is acceptable. **All foundation requirements must be completed before a student begins core and elective courses.**

BA 6000	Introduction to Accounting and Financial Reporting	2
BA 6005	Basics of Financial Management	2
BA 6010	Basics of Business Economics	2
BA 6015	Marketing Foundations	2
BA 6020	Contemporary Principles of Management	2
BA 6025	Basics of Production/Operations Management	2
BA 6090	Quantitative Analysis: Theory and Application	2

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.

Foundation Waivers: While all of the above foundation courses are required, students who have had equivalent course work in their undergraduate programs (except for BA 6005, see below) with a cumulative g.p.a. of 3.00 ('B') or higher may be granted waivers of certain foundation courses at the time of their admission to the graduate program.

BA 6005 Foundation Waiver Criteria:

1. Students who have earned a grade of 3.00 ('B') or higher in an undergraduate course that is compatible with BA 6005 and the prior course was taken within the last three years from an AACSB accredited college or university. These students must also have quantitative GMAT/GRE scores higher than the 50th percentile.
2. Students who are Finance or Accounting majors from an AACSB accredited US or Canadian university, have obtained a g.p.a of 3.00 or higher in the major, and have graduated in the last two years.
3. Students who are not Finance or Accounting major but have completed FIN 3290 or an equivalent course from an AACSB

accredited US or Canadian university within the last 12 months and passed the course with a grade of 3.33 ('B+') or higher.

- Students who do not meet any of these conditions may take and pass a waiver exam administered by the Department of Finance; however, they are strongly encouraged to take BA 6005. BA 6005 (Basics of Financial Management) is a prerequisite for BA 7020.

Business Information Systems and Mathematics Proficiency: In addition to these courses, one college-level mathematics course and one course in business information systems are required.

Writing Proficiency: Each student admitted to the graduate business program is required to demonstrate competency in analytical writing. A score of at least 3.5 on the GMAT writing assessment will demonstrate this competency. A student who scores below 3.5 on the GMAT writing assessment must complete with a grade of 'C' or better ENG 3050 or a writing course approved by the Mike Ilitch School of Business Graduate Programs Office. The cumulative g.p.a. of all waived courses (for example, introduction to accounting or finance) and courses taken to demonstrate competency, such as ENG 3050, must be 'B' (3.0) or higher.

Core Requirements (M.B.A.)

The following six core courses are required of all students:

BA 7000	Managerial Accounting	3
BA 7020	Corporate Financial Management	3
BA 7040	Managing Organizational Behavior	3
BA 7050	Marketing Strategy	3
BA 7070	Social Perspectives on the Business Enterprise	3
BA 7080	Strategic Management ¹	3

¹ BA 7080 is the capstone course and 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.

Examination Requirements (M.B.A./C.P.A.)

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 Graduate Programs Office (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.

Concentration Requirements (M.B.A.)

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 Mike Ilitch School of Business currently offers twelve areas of concentration. The following are the areas of concentrations and the list of courses that must be completed to fulfill the concentration requirement.

Accounting Systems

Select three of the following: 9

ACC 7040	Intermediate Financial Accounting I
ACC 7130	Intermediate Managerial Accounting
ACC 7145	Accounting Systems: Design and Controls

ACC 7148	ERP Systems and Business Integration	9
Total Credits		9

Auditing

Select three of the following: 9

ACC 7040	Intermediate Financial Accounting I
ACC 7050	Intermediate Financial Accounting II
ACC 7180	Auditing
ACC 7190	Advanced Auditing

Total Credits 9

Corporate Governance

ACC 7310	Business and Professional Ethics for Managers and Accountants	3
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BLW 7220	Law of Corporate Management and Finance	3
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MGT 7620	Complex Organizations	3
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Total Credits 9

Finance

FIN 7230	Investment Policies	3
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Select at least two of the following: 6

FIN 7000	Applied Financial Analysis
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FIN 7229	Corporate Valuation: Techniques, Models and Strategic Applications
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FIN 7220	Advanced Managerial Finance
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FIN 7290	Topics in Finance
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FIN 7330	Fixed Income Securities
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FIN 7340	Futures and Options
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FIN 7090	Money and Capital Markets
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FIN 7870	International Finance
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Total Credits 9

Financial Accounting

ACC 7040	Intermediate Financial Accounting I	3
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ACC 7050	Intermediate Financial Accounting II	3
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Select at least one of the following: 3

ACC 7115	Financial Statement Analysis
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ACC 7122	Advanced Accounting I
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ACC 7145	Accounting Systems: Design and Controls
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ACC 7155	Forensic Accounting
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ACC 7180	Auditing
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ACC 7188	Governmental and Not-for-Profit Accounting
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ACC 7190	Advanced Auditing
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Total Credits 9

Global Supply Chain

GSC 7620	Global Supply Chain Management	3
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GSC 7650	Strategic Procurement	3
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Select one of the following: 3

ACC 7148	ERP Systems and Business Integration
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GSC 7010	Supply Chain Decision Tools
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GSC 7260	Theory of Constraints: Breakthrough Solutions
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GSC 7670	Special Topics in Supply Chain Management
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GSC 7991	Principles of Quality Management
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ISM 7510	Database Management
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MKT 7450	Business Research and Methodology
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MKT 7460	International Business	
MKT 7500	International Marketing Strategy	
MKT 7700	Management of Retail Enterprises	
MKT 7950	Business and Sustainability	
	or MGT 7950 Business and Sustainability	
Total Credits		9

Human Resources Management

MGT 7640	Management of Human Resources	3
MGT 7750	Labor Relations and Collective Bargaining	3
Select one of the following (ELR are Employment and Labor Relations courses):		3
ELR 7010	Health Care, Retirement, and Employee Benefit Plans	
ELR 7450	Employment Relations Law in North America	
MGT 7650	Strategic Human Resource Management	
MGT 7790	Compensation Administration	
Total Credits		9

Information Systems Management

Select at least three of the following:		9
ISM 7505	Information Analytics: Inbound Information Technology	
ISM 7510	Database Management	
ISM 7530	Societal and Ethical Issues in the Information Age	
ISM 7560	Survey of E-Commerce	
ISM 7570	Data Mining	
ISM 7575	Corporate Computer Networks and IT Security	
ISM 7994	Digital Content Development	
ISM 7996	Principles for Customer Relationship Management	
Total Credits		9

Internal Audit

ACC 7165	Internal Audit I	3
Select at least two of the following:		6
ACC 7040	Intermediate Financial Accounting I	
ACC 7050	Intermediate Financial Accounting II	
ACC 7145	Accounting Systems: Design and Controls	
ACC 7155	Forensic Accounting	
ACC 7180	Auditing	
ACC 7190	Advanced Auditing	
ACC 7310	Business and Professional Ethics for Managers and Accountants	
ACC 7990	Internship in Accounting or Tax Practice	
Total Credits		9

International Business

MKT 7460	International Business	3
MKT 7500	International Marketing Strategy	3
Select one of the following:		3
GSC 7620	Global Supply Chain Management	
FIN 7870	International Finance	
MKT 7950	Business and Sustainability	
Total Credits		9

Management

Select at least three of the following:		9
MGT 7620	Complex Organizations	
MGT 7630	Organizational Change and Development	
MGT 7640	Management of Human Resources	
MGT 7660	Entrepreneurial Management	
MGT 7815	Strategic Leadership	
MGT 7816	Leading in Organizations	
MGT 7850	Management through Constructive Persuasion	
MGT 7900	Project Management	
	or ISM 7900 Project Management	
MGT 7950	Business and Sustainability	
MGT 8000	Seminar in Management	
Total Credits		9

Marketing

MKT 7450	Business Research and Methodology	3
MKT 7470	Consumer and Industrial Buying Behavior	3
Select one of the following:		3
GSC 7650	Strategic Procurement	
ISM 7996	Principles for Customer Relationship Management	
MKT 7150	Global Automotive Marketing Strategy	
MKT 7430	Advertising Management	
MKT 7460	International Business	
MKT 7500	International Marketing Strategy	
MKT 7700	Management of Retail Enterprises	
MKT 7950	Business and Sustainability	
Total Credits		9

Taxation

Select three of the following:		9
ACC 7120	Introduction to Taxation: Individuals	
ACC 7300	Accounting and Tax Research and Professional Communications	
	or ACC 7320 Introduction to Taxation: Business Entities	
ACC 7325	Advanced Tax Research and IRS Procedures	
ACC 7335	Taxation of Corporations and Shareholders	
ACC 7340	Taxation of Pass-Through Entities	
ACC 7400	Taxation of International Business and Multinational Transactions	
ACC 7410	Tax Accounting Methods and Accounting for Income Taxes	
ACC 7420	Taxation by State and Local Jurisdictions	
ACC 7450	Taxes and Business Strategy	
Total Credits		9

Elective Requirements (M.B.A.)

All elective courses must be at the 7000 level or higher and must be offered by the Mike Ilitch School of Business. The written approval of the Dean or his/her designee is required to take any course as an M.B.A. elective outside the Mike Ilitch School of Business. (Only students holding a bachelor's degree in business administration are eligible to take elective courses outside the Mike Ilitch School of Business.) Students may select any combination of elective courses from the following set of courses.

Accounting

ACC 7040	Intermediate Financial Accounting I	3
ACC 7050	Intermediate Financial Accounting II	3
ACC 7115	Financial Statement Analysis	3
ACC 7120	Introduction to Taxation: Individuals	3
ACC 7122	Advanced Accounting I	3
ACC 7130	Intermediate Managerial Accounting	3
ACC 7145	Accounting Systems: Design and Controls	3
ACC 7148	ERP Systems and Business Integration	3
ACC 7155	Forensic Accounting	3
ACC 7165	Internal Audit I	3
ACC 7170	International Accounting	3
ACC 7180	Auditing	3
ACC 7188	Governmental and Not-for-Profit Accounting	3
ACC 7190	Advanced Auditing	3
ACC 7300	Accounting and Tax Research and Professional Communications	3
ACC 7310	Business and Professional Ethics for Managers and Accountants	3
ACC 7320	Introduction to Taxation: Business Entities	3
ACC 7335	Taxation of Corporations and Shareholders	3
ACC 7340	Taxation of Pass-Through Entities	3
ACC 7400	Taxation of International Business and Multinational Transactions	3
ACC 7410	Tax Accounting Methods and Accounting for Income Taxes	3
ACC 7420	Taxation by State and Local Jurisdictions	3
ACC 7450	Taxes and Business Strategy	3
ACC 7998	Seminar in Tax and Accounting Policy	3

Business Law

BLW 7210	Business Law for Entrepreneurs	3
BLW 7220	Law of Corporate Management and Finance	3

Finance

FIN 7000	Applied Financial Analysis	3
FIN 7090	Money and Capital Markets	3
FIN 7220	Advanced Managerial Finance	3
FIN 7229	Corporate Valuation: Techniques, Models and Strategic Applications	3
FIN 7230	Investment Policies	3
FIN 7280	Entrepreneurial Finance and Venture Capital	3
FIN 7290	Topics in Finance	3
FIN 7330	Fixed Income Securities	3
FIN 7340	Futures and Options	3
FIN 7870	International Finance	3

Global Supply Chain Management

GSC 7010	Supply Chain Decision Tools	3
GSC 7260	Theory of Constraints: Breakthrough Solutions	3
GSC 7620	Global Supply Chain Management	3
GSC 7670	Special Topics in Supply Chain Management	3
GSC 7650	Strategic Procurement	3
GSC 7991	Principles of Quality Management	3

Information Systems Management

ISM 7505	Information Analytics: Inbound Information Technology	3
ISM 7510	Database Management	3
ISM 7520	Information Systems Design	3
ISM 7530	Societal and Ethical Issues in the Information Age	3
ISM 7560	Survey of E-Commerce	3
ISM 7570	Data Mining	3
ISM 7575	Corporate Computer Networks and IT Security	3
ISM 7900	Project Management	3
ISM 7994	Digital Content Development	3
ISM 7996	Principles for Customer Relationship Management	3
ISM 8000	Seminar in Information Systems and Management	3

Management

MGT 7620	Complex Organizations	3
MGT 7630	Organizational Change and Development	3
MGT 7640	Management of Human Resources	3
MGT 7650	Strategic Human Resource Management	3
MGT 7660	Entrepreneurial Management	3
MGT 7700	Leadership and Management of Innovation and Technology	3
MGT 7750	Labor Relations and Collective Bargaining	3
MGT 7770	Union Contract Administration	3
MGT 7780	Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice	3
MGT 7790	Compensation Administration	3
MGT 7815	Strategic Leadership	3
MGT 7816	Leading in Organizations	3
MGT 7850	Management through Constructive Persuasion	3
MGT 7900	Project Management	3
or ISM 7900	Project Management	
MGT 7950	Business and Sustainability	3
or MKT 7950	Business and Sustainability	
MGT 8000	Seminar in Management	3

Marketing

MKT 7150	Global Automotive Marketing Strategy	3
MKT 7430	Advertising Management	3
MKT 7450	Business Research and Methodology	3
MKT 7460	International Business	3
MKT 7470	Consumer and Industrial Buying Behavior	3
MKT 7500	International Marketing Strategy	3
MKT 7700	Management of Retail Enterprises	3
MKT 7870	Seminar in Marketing	3
MKT 7890	Internship in Marketing	3
MGT 7950	Business and Sustainability	3
or MKT 7950	Business and Sustainability	
MKT 7995	Directed Study in Marketing	1-3

Business Administration (Ph.D.)

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. For detailed information, please visit the Mike Ilitch School of Business (<http://ilitchbusiness.wayne.edu>).

Admission Requirements

Admission to any graduate program is contingent upon admission to the Graduate School (p. 17). In addition, applicants to the Ph.D. program must comply with the following:

1. hold a bachelor's 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.

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 course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the Mike Ilitch School of Business (p. 67) governing graduate scholarship and degrees.

All Business School Ph.D. students must complete:

BA 8777	Professional Development Seminar for Business Doctoral Students	1-3
BA 8900	Development of Effective Research Programs in Business	3

All Finance Track students must complete:

BA 8120	Theory of Finance	3
BA 8121	Seminar in Corporate Finance	3
BA 8122	Empirical Methods in Finance	3
BA 8123	Seminar in Corporate Governance	3
BA 8124	Seminar in Asset Pricing	3

All Management Track students must complete:

BA 8220	Seminar in Organizational Behavior	3
BA 8221	Seminar in Strategic Management	3
BA 8420	Seminar in Organizational Theory	3

All Marketing Track students must complete:

BA 8050	Seminar in Marketing Theory	3
BA 8054	Seminar in Marketing Strategy	3
BA 8056	Special Topics Seminar in Marketing	3
BA 8058	Advanced Topics in Consumer Behavior	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 perspectives, 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 BA 9991, BA 9992, BA 9993, BA 9994 (Doctoral Research and Direction I, II, III, IV, respectively), in consecutive academic year semesters. Students should consult Graduate School regulations governing doctoral study (p. 35).

Business Administration and Law (M.B.A./J.D. Joint Degree)

Joint degree programs are those in which credit for some courses may be applied to both degrees. The Joint M.B.A./J.D. Program leads to the receipt of both the Master of Business Administration (M.B.A.) degree from the Mike Ilitch School of Business and the Juris Doctor (J.D.) degree from the Law School. The joint program allows students to fulfill the requirements of both programs concurrently. Students will need to complete all the requirements for both degrees, but Law School courses may count for up to nine elective credits toward the M.B.A. degree.

Applicants to this program must apply to both the Law School J.D. program and the Mike Ilitch School of Business M.B.A. program. Admission to the Concurrent M.B.A./J.D. Program requires separate approval by both the Law School and the Mike Ilitch School of Business. Students must meet all admission requirements of both programs; be admitted to both programs; and obtain the separate approval of both units to participate in the concurrent degree program.

Students seeking admission into the Joint M.B.A./J.D. program may use their Law School Admission Test (LSAT) score for M.B.A. admission consideration, as long as the student makes it clear at the time of application that they would like to pursue this option. Otherwise, the student must take the Graduate Management Admission Test (GMAT) and submit that score for M.B.A. admission consideration. If the student is a current J.D. student within their first year of law school, the student may apply for the Joint M.B.A./J.D. program using the University Graduate Change of Status form and submitting all required application documents.

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, with a maximum of four M.B.A. graduate courses applicable toward the J.D. degree. Students are eligible to apply a maximum of nine J.D. 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 acceptable only for LEX 8631 and LEX 8633;
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 Law courses which will be considered for dual applicability are:

LEX 6200	Contracts A	3
LEX 6201	Contracts B	3

LEX 7009	Advanced Bankruptcy	3
LEX 7014	Taxation of Corporations: Acquisitions and Restructuring	4
LEX 7026	Antitrust	2-4
LEX 7045	Banking Law	2
LEX 7060	Business Planning	4
LEX 7061	Business Planning: A Transactional Approach	4-8
LEX 7128	Consumer Law	2-3
LEX 7141	Corporate Finance	3
LEX 7156	Corporations	2-4
LEX 7221	Employment Law	2-3
LEX 7353	Health Care Organizations and Finance	3
LEX 7404	International Business Transactions	3
LEX 7407	International Intellectual Property Law	3
LEX 7603	Mergers and Acquisitions	2-3
LEX 7828	Law of Electronic Commerce	3
LEX 7831	Trademarks and Unfair Competition	2-3
LEX 8631	Business and Community Law Clinic	6
LEX 8633	Business and Community Law Clinic (Advanced)	2

three credits and all courses are offered online and NO class time is required.

Scheduling: Students may commence the Post-Bachelor's ISM program in any term and should assume at least one year for completion if enrolled on a full-time basis; two years maybe required for part-time registration.

Core Courses

ISM 3630	Business Information Systems	3
ISM 5820	Systems Analysis and Design	3
ISM 5860	Data Communications and Networks	3
ISM 5992	Database Systems	3
ISM 5994	Software Tools for Business Applications	3

Elective Courses

Select three of the following:			9
ISM 4575	IT Security		
ISM 5530	Ethics in Information Technology		
ISM 5560	Survey of e-Commerce		
ISM 5570	Data Mining and Analytics		
ISM 6997	Information Systems Policy and Management		

Total Credits 24

Taxation (M.S.T. Program)

There is currently an admissions moratorium in effect for the M.S.T. program. Please contact the Mike Ilitch School of Business for more details.

Admission Requirements

Admission to any graduate program is contingent upon admission to the Graduate School (p. 17). 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) (p. 72).
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. Final approval of the applicant's admission to graduate study in taxation is authorized by the Dean of the Mike Ilitch School of Business 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 Graduate Programs, Mike Ilitch School of Business. A copy of the Guidelines for formal appeals is available in the School's Graduate Programs Office.

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;

6. If a Joint M.B.A./J.D. student would like to apply a J.D. course to the M.B.A. that is not listed above, the student must petition in writing to the Graduate Committee for dual application of credit.

Information Systems Management (Post-Bachelor's Certificate)

The Post-Baccalaureate Certificate in Information Systems Management develops information systems competencies in managing and applying computer technology to analyze, design and implement ways to increase organizational effectiveness, efficiency and competitiveness to support managerial decision making.

The certificate provides more than a basic knowledge of information systems. Students completing the program achieve competency in information systems terminology, concepts and principles; information systems analysis/design through application and knowledge of current hardware and software; and planning and carrying out system development and management of information systems.

Admission Requirements

A bachelor's degree is required for the Post-Baccalaureate Certificate in Information Systems and Management. Any baccalaureate degree from an accredited institution, regardless of major, is acceptable. Because these courses are not technical, this program is available to students with a variety of undergraduate backgrounds.

Students who have received their undergraduate degree from Wayne State University should process a change in their status at the University Registrar's Office to "Post-Baccalaureate". Students who have received an undergraduate degree from another institution must complete the Application of Undergraduate Admission form and request that official transcripts be sent directly to the Office of Undergraduate Admissions.

A minimum of twenty-four credits are required for the certificate: five required courses (fifteen semester credits) and three elective courses (nine semester credits).

Students must complete all courses with a minimum grade 'C' or better, and maintain at least a cumulative 2.5 Grade Point Average (g.p.a.) in order to earn the Post-Baccalaureate Certificate in ISM. All Courses are

- an official notification of the applicant's score on the GMAT and, if required, the TOEFL. For information regarding the GMAT.

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. Additional foundation coursework may also be required prior to starting the thirty credits of final-program coursework. Degrees are granted upon recommendation of the faculty of the Mike Ilitch School of Business. 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 (p. 12) and the Mike Ilitch School of Business (p. 67) governing graduate scholarship and degrees.

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 six courses providing in-depth coverage of the body of knowledge associated with studies in taxation and tax policy.

Electives comprise three 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 (M.S.T.)

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	3
ACC 7050	Intermediate Financial Accounting II	3
ACC 7120	Introduction to Taxation: Individuals	3

However, if the applicant's business administration or accounting degree is from a college or university located outside of the United State, 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, ACC 7050 and ACC 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 (M.S.T.)

(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 7300	Accounting and Tax Research and Professional Communications	3
ACC 7310	Business and Professional Ethics for Managers and Accountants	3
ACC 7320	Introduction to Taxation: Business Entities	3
ACC 7325	Advanced Tax Research and IRS Procedures	3
ACC 7335	Taxation of Corporations and Shareholders	3
ACC 7340	Taxation of Pass-Through Entities	3
Total Credits		18

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 (M.S.T.)

(Nine 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 Mike Ilitch School of Business 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 Mike Ilitch School of Business 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 (p. 152) regarding courses, schedules, and calendar.

Capstone Requirement (M.S.T.)

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.

Mike Ilitch School of Business Faculty

Accounting

ALVIN, GERALD: J.D., M.B.A., B.S., Wayne State University; Professor Emeritus

BILLINGS, B. ANTHONY: Ph.D., Texas A & M University; M.B.A., BB.A., University of Texas at Austin; Professor

HABEL, DEBORAH L: M.B.A., University of Michigan; B.S., Oakland University; Lecturer

JONES, DEBORAH K.: Ph.D., Kent State University; B.A., Southern Illinois University; Senior Lecturer

LEE, CHEOL: Ph.D., M.S., State University of New York at Buffalo; M.B.A., B.A., Sung Kyun Kwan University; Associate Professor

MITRA, SANTANU: Ph.D., Louisiana State University; M.B.A., University of New Hampshire; C.A., Institute of Chartered Accountants of India; B. Com, M.Com., University of Calcutta; Associate Professor

REINSTEIN, ALAN: D.B.A., University of Kentucky; M.B.A., University of Detroit; M.S., B.A., State University of New York; George R. Husband Professor

SPALDING, ALBERT D.: J.D., M.B.A., George Washington University; M.A., California State University; M.S., Northcentral University; B.B.A., University of Michigan; Associate Professor

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VOLZ, WILLIAM H.: J.D., Wayne State University; M.B.A., Harvard University; M.A., University of Michigan; B.A., Michigan State University; Professor

WALSH, ANTONIE: L.L.M., University of Florida; J.D., Wayne State University; B.S., Oakland University; Senior Lecturer

WEIMER, DANIEL F.: M.A., University of Michigan; B.S., Bowling Green State University; Lecturer

Finance

D'MELLO, RANJAN: Ph.D., M.B.A., Ohio State University; M.Com., B.Com., Sydenham College; Associate Professor

DATTA, SUDIP: Ph.D., M.A., State University of New York, Binghamton; B.S., Presidency College; Professor and Chair

FORSYTHE, ROBERT: Ph.D., M.S., Carnegie-Mellon University; B.S., Pennsylvania State University; Professor

ISKANDAR-DATTA, MAI: Ph.D., M.B.A., B.S., University of Missouri, Columbia; Professor

JHA, ANAND: Ph.D., M.B.A., Indiana University; B.A., Wabash College; Associate Professor

KULCHANIA, MANOJ: Ph.D., University of Pittsburgh; M.S., Indiana University; B.S., Indian Institute of Technology; Assistant Professor

MOUGOUE, MBODJA: Ph.D., M.A., University of New Orleans; M.A., University of Paris; B.A., Yaounde University; Associate Professor

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SPENCER, MILTON H.: Ph.D., Cornell University; M.A., B.S., New York University; Professor Emeritus

WAGSTER, JOHN D.: Ph.D., M.S., Texas A & M University; B.S., University of Tennessee; Associate Professor

Management and Information Systems

HEINRICHS, JOHN: Ph.D., B.A., University of Toledo; M.B.A., Bowling Green State University; Associate Professor

JACKSON, CHRISTINE: Ph.D., University of Florida; B.S., Michigan State University; Professor and Chair

JULIAN, SCOTT: Ph.D., Louisiana State University; B.S., B.A., University of Central Florida; Associate Professor

KIRCHMEYER, CATHERINE: Ph.D., M.B.A., York University; B.S., B.A., University of Guelph; Associate Professor Emeritus

LEE, JAEGUL: Ph.D., Carnegie Mellon; M.S., Georgia Institute of Technology; M.S., University of Missouri; B.S., Korean Advance Institute of Science and Technology; Associate Professor

LEVI, ARIEL: Ph.D., Yale University; B.A., University of California at Los Angeles; Senior Lecturer

LIU, KUN (Carl): Ph.D. University of Utah; B.A., Nanjing University of Aeronautics and Astronautics; Assistant Professor

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MAURER, JOHN G.: Ph.D., M.B.A., Michigan State University; B.S., University of Detroit; Professor Emeritus

NAUGHTON, THOMAS J.: Ph.D., State University of New York at Buffalo; M.A., Boston College; B.A., Northeastern University; Associate Professor

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REID, IRVIN D.: Ph.D., M.A., Wharton School of Business, University of Pennsylvania; M.S., B.S., Howard University; Professor

SHIELDS, GARY: M.B.A., Wayne State University; B.B.A., Kent State University; Lecturer

SOMERS, TONI M.: Ph.D., M.Ed., B.A., University of Toledo; M.B.A., Bowling Green State University; Professor

TEKLEAB, AMANUEL: Ph.D., University of Maryland; B.S., Addis Ababa University; Associate Professor

WILLIAMS, DERIC: M.B.A., B.S., Wayne State University; Lecturer

Marketing and Supply Chain Management

BISWAS, ABHIJIT: Ph.D., University of Houston; M.B.A., University of Central Oklahoma; M.A., B.A., University of Calcutta; Professor

BUTLER, TIMOTHY: Ph.D., University of South Carolina; M.B.A., B.B.A., University of Memphis; Associate Professor

DECAMPOS, HUGO: M.B.A., Arizona State University; MIM, Thunderbird School of Global Management; B.S., Brigham Young University; Assistant Professor

DUTTA, SUJAY: Ph.D., Louisiana State University; M.S., B.S., Calcutta University; Associate Professor

GREER, BERTIE : Associate Professor

KRISHNAN, K.S.: Ph.D., University of Pennsylvania; M.S., Indian Statistical Institute; B.A., Vivekananda College; Associate Professor Emeritus

LOW, JAMES T.: Ph.D., M.B.A., B.A., University of Michigan; Associate Professor Emeritus

MODI, SACHIN B.: Ph.D., Indiana University; M.S., University of Cincinnati; B.Eng., University of Pune; Professor

MORGAN, FRED: Ph.D., M.B.A., Michigan State University; B.S.B.A., Purdue University; Professor

RIORDAN, EDWARD A.: D.B.A., University of Kentucky; M.B.A., University of Missouri; B.A., Michigan State University; Professor Emeritus

RYMER, JONE M.: Ph.D., M.A., State University of New York, Buffalo; B.S., University of Minnesota; Professor Emeritus

SISK, LORI A.: M.B.A., Bowling Green State University; Lecturer

STOLTMAN, JEFFREY J.: Ph.D., Syracuse University; M.A., Western Kentucky University; B.A., Canisius College; Associate Professor

TANGARI, ANDREA: Ph.D., M.B.A., University of Arkansas; B.S., Indiana University; Assistant Professor

TAYLOR, JOHN: Ph.D., M.B.A., B.A., Michigan State University; Associate Professor and Chair

WILLIAMS, DAVID L.: Ph.D., M.A., Wayne State University; B.A., University of Wisconsin; Associate Professor

YAN, TINGTING: Ph.D., Arizona State University; M.S., Fudan University; B.A., Zhongnan University; Associate Professor

YAPRAK, ATTILA: Ph.D., Georgia State University; M.B.A., B.S., Indiana University; Professor

COLLEGE OF EDUCATION

Dean: R. Douglas Whitman

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.

Academic Regulations for the College of Education

For complete information regarding the academic rules and regulations of the University, students should consult the Graduate School (p. 12). The following additions and amendments pertain to the College of Education.

Financial Aid and Scholarships

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. Most, though not all, are also based on financial need. Application materials are available on the College of Education's website (<http://coe.wayne.edu/student/scholarship.php>). Review the website for more information and for the specific deadline date.

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 Director.

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 submit a plan of action completed with their advisor to the Graduate Officer of the College of Education. The plan of action addresses the necessary steps and timeline for the student to regain good academic standing and identifies the coursework to be repeated or new coursework necessary to achieve good academic standing. The plan of action must be approved by the Graduate Officer 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 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 must complete a Returning Student Update Record form (<http://reg.wayne.edu/students/forms.php>).

Re-validation of Credit – Master's Degree

Upon recommendation of the advisor and approval of the Graduate Director, a master's degree student may re-validate 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 re-validate credits earned at other institutions. The advisor and student must complete a Request for a Time Extension form (<http://coe.wayne.edu/student/forms.php>) and set a terminal date for completion of all degree requirements, including such additional requirements as may be indicated by the graduate officer to re-validate 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. 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 from the State of Michigan (<http://www.michigan.gov>).

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 (Ed.D. and Ph.D.) degree requirements are established and posted online (<https://wayne.edu/gradschool/phd>) by the Graduate School.

Information concerning commencement announcements, caps and gowns, invitations, tickets, time and place, and other relevant information is posted by the Commencement Office (<http://commencement.wayne.edu>). Candidates for doctoral degrees are requested and expected to attend the commencement ceremony at which the University confers upon them the degree earned. Graduate Certificate and Education Specialist Certificate students do not participate in the Commencement Ceremony, which is limited to degree granting programs.

Master's Degrees

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 respective divisional sections.

Master of Arts in Teaching

The Master of Arts in Teaching degree is administered by the Division of Teacher Education (p. 97). Both generic degree requirements and specific requirements associated with individual majors and areas of concentration are described in that section.

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
- Theoretical and Behavioral Foundations

Specific requirements associated with individual majors and areas of concentration are presented in the respective divisional sections; generic degree requirements applicable to all Divisions are as follows:

Admission

Admission to these programs is contingent upon admission to the Graduate School (p. 17). In addition, applicants must satisfy the following criteria:

For some programs, a teaching certificate is required 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.

Application

Application information is available on the Graduate Admissions (<http://gradadmissions.wayne.edu/apply.php.html>) website.

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 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 respective divisional sections.

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, essay/project or thesis not required

General Professional Requirement: Fundamental Areas and Core Courses

Philosophical and theoretical perspectives unite the College of Education in its mission to prepare educators and other professionals as agents of change for an equitable, inclusive, global society that improves the lives of children, adults, families, and community.

This goal is achieved in the Masters of Education by emphasizing the following Fundamental Areas and/or Core Courses in education, performance improvement, health, and human development:

- Philosophical, historical, sociocultural, and political influences;
- Impact of ecological factors on human development, health, and wellbeing across the life span;
- Research, writing, and innovation.

Preparation includes the development of knowledge, skills, and dispositions and thus can be achieved through various means, such as coursework, field experiences, research, and community engagement. Although these fundamental areas provide an overarching umbrella that unites the College, individual Divisions and Programs may articulate these philosophical and theoretical tenets in different ways.

All students in a Masters of Education program must meet the General Professional Requirement through completion of the following Fundamental Areas and/or through completion of Core Courses, which are listed below:

Fundamental Areas

Philosophical, Historical, Sociocultural, and Political Influences include:

- Global/local education as social justice
- Knowledge of history and systems of discipline area and implications
- Issues of power and empowerment
- Perspectives on inclusive society
- Preparation for serving as agent of change

Ecological Perspectives on Development, Health, and Wellbeing include:

- Psychology of learning across the life span
- Knowledge of human development, child/adolescent psychology
- Ecological influences on the quality of life issues

Research, Writing, and Innovation include:

- Methods of evaluation & research
- Critique of research

Core Courses

In addition to the Fundamental Areas above, the General Professional Requirement is met through completion of professional Core Courses. The student must complete three courses from three different areas chosen from those listed below. Courses within a student's major area cannot be used to satisfy this requirement.

Counseling

CED 6700	The Role of the Teacher in Guidance	2
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Educational Administration

EDA 7600	The Structure of American Education	2
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Educational Psychology

Select one of the following:		2-3
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EDP 5450	Child Psychology	
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EDP 5480	Adolescent Psychology	
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EDP 7350	The Learning Process	
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Evaluation and Research

EER 7610	Evaluation and Measurement	2-3
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History and Philosophy of Education

EHP 7600	Philosophy of Education	2-3
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Special Education

SED 5010	Inclusive Teaching	2
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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 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 Professional Readiness Examination (PRE), 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 test results. A complete list of requirements can be found on the College of Education (<http://coe.wayne.edu/admissions/post-bachelor.php>) website.

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
- Theoretical and Behavioral Foundations

Specific requirements associated with individual majors and areas of concentration are presented in the Divisional sections

Admission

Admission to this program is contingent upon admission to the Graduate School (p. 17). Minimum entrance requirements established by the College of Education are:

1. A master's degree from an accredited institution.
2. In general, applicants must present a grade point average of 2.75 or above for upper division undergraduate work. Applicants with an undergraduate grade point average below 2.75 must have a grade point average of 3.4 or above on their master's degree work.
3. Fulfillment of the special requirements of the area of concentration in which the student wishes to work.
4. All major areas with the exception of administration and supervision, instructional technology and counseling require a minimum of three years of teaching experience or equivalent.

Application

Application information is available on the Graduate Admissions (<http://gradadmissions.wayne.edu/apply.php.html>) website.

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 administrators, counselors, instructional designers and teachers to contribute to more effective productivity of professional workers in and outside 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 Credit

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 superior scholarship; leadership in education; promise in the field of research; and 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
- Theoretical and Behavioral Foundations

Specific requirements associated with individual majors and areas of concentration can be found in the respective divisional sections; 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 (p. 17). 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 information is available on the Graduate Admissions (<http://gradadmissions.wayne.edu/apply.php.html>) website.

Doctor of Education Requirements

Credit Requirements: The minimum credit requirement for the Ed.D. degree is ninety credits in graduate work beyond the baccalaureate degree. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

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
- curriculum and instruction

These seminars are open only to doctoral students.

Research Methods: A minimum of eleven credits is required in course work, approved by the College's Doctoral Advisory 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 is optional at the discretion of the major advisor. 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). Prior to candidacy, students may register for up to eight (8) credit hours. The balance of hours are completed after advancement to candidate status. Registration must be completed prior to the Final Public Lecture-Presentation Defense.

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.

Annual Progress Reports are required and completed at the end of the winter semester (due by April 30). The annual review of student progress is an important cornerstone of quality training of doctoral students. An Annual Review from each year of the program is required when requesting a time extension.

Final written and oral examinations in the major field of concentration is required. Testing in the cognate is optional at the discretion of the major advisor. The exact times of these examinations are determined by the Graduate Officer. 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 outside of the area of concentration. The outside member may be from the area of the cognate. Two members of the committee, including the advisor, must hold a Regular Graduate Faculty Appointment. 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.

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

Two members of the committee, including the advisor, must hold a Regular Graduate Faculty Appointment. 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.

Candidacy is achieved when the dissertation prospectus receives final approval by the Graduate Officer following approval by the Dissertation Advisory Committee through a proposal oral defense and by the Internal Review Board (when applicable).

Time Extensions may be granted to candidates in good standing with demonstrable progress towards completion of the dissertation. The request for a time extension must be made within six months of the original 7-year completion deadline and the student's dissertation proposal must have been approved prior to making the request. Students who have not completed the Ed.D. requirements within ten years of their application date are required to re-take the Final Qualifying Examination and may need to complete additional coursework to prepare for the examination. The total time for earning the Ed.D., including all time extensions and any required revalidation, is 12 years.

A final oral examination on the dissertation is conducted by the student's doctoral committee under the auspices of the Education Graduate Office. The student must be registered the semester during the Final Public Lecture-Presentation Defense.

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.

Ph.D. programs in the College of Education require a minimum of ninety graduate credits beyond the bachelor's degree, with the exception of the Ph.D. in Educational Psychology. The Educational Psychology Ph.D. requires a minimum of one hundred graduate credits beyond the bachelor's degree. Of the minimum of ninety graduate credits (or one hundred for the Ph.D. in Educational Psychology), 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. A minimum of fifteen credits in research technique courses approved by the College's Doctoral Advisory Committee are required. A cognate in a field inside or outside the College of Education is optional at the discretion of the major advisor.

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. For additional information, Ph.D. applicants should consult Graduate Degree and Certificate Requirements (p. 35). Also, please consult the College of Education Doctoral Policies and Procedures bulletin, available in Room 489, Education Building, for further specific Ph.D. requirements.

Academic Services

Office: 489 Education; 313-577-1601

Assistant Dean: Janice Green, Ph.D.

Graduate Advising: LaSondra Dawn, Paul Johnson, Mary Walker, Kevin Williams

Purposes of the Division

The Wayne State College of Education's Division of Academic Services is the initial point of contact for both current and prospective students at all degree levels in the college. Academic Services provides advising on the admission process, certification and degree requirements, as well as graduation procedures. The division also is the compliance agent for internal and external policies and procedures for all programs in the college.

Academic Services works across five key areas to help students earn certification and complete degree requirements, connect students with unique opportunities and professional experiences, and establish or advance career opportunities: Admission, advising, graduation and certification, career placement and alumni.

Graduate advising

Academic Services also provides pre-admission advising to students interested in graduate programs. Graduate advisors provide guidance with program selection, satisfaction of admission requirements and completion of the graduate admission application.

- Graduate advising is an invaluable resource at every stage of your graduate education, offering:
- Degree and certificate audits for graduation.
- Recommendations to the Michigan Department of Education for certification and licensure.
- Plans of work for teaching endorsements in the core subject areas.
- Requests for time extensions and monitoring of the university's academic probation system.

Certification

As a liaison to the Michigan Department of Education, the Division of Academic Services recommends candidates for initial certification as teachers, administrators and school psychologists, as well as licensure for school counselors. Additionally, the division helps candidates secure endorsements to existing teacher and administrator certificates, and also completes approval recommendations for supervisors and directors of special education.

Career placement

Academic Services sponsors several outreach and promotional events to help graduates increase employment opportunities and network with professionals in the field. The annual Educator Job Fair, held in the spring, is an opportunity for candidates to meet with employers servicing the needs of preK-12 children in schools and community organizations in Michigan and across the country.

Alumni

Academic Services works with the Wayne State Alumni Association to help establish supportive and insightful connections with our network of successful alumni. The College of Education encourages alumni to connect with students to share their experiences and offer valuable advice. These connections can prepare you for success in and out of the classroom, often leading to new career opportunities and experiences.

Administrative and Organizational Studies

Office: 341 Education Building; 313-577-1728

Interim Assistant Dean: William Hill

<http://www.coe.wayne.edu/aos>

The Division of Administrative and Organizational Studies has as its primary goal the development and enhancement of leadership and organizational learning. It is within the scope of this division to study emergent trends, technologies and educational innovations; to develop rationales for supporting educational change; to present viable programs of study for advanced students in education which will enable them to function skillfully as educational leaders in facilitating change, and in developing and conducting on-going programs; and to design and implement learning innovations, and the impact of instructional methodologies on the improvement of human and organizational performance. Program areas, Educational Leadership and Policy Studies, and Learning Design and Technology, are under the guidance of this Division.

Educational Leadership and Policy Studies Programs

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 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).

Learning Design and Technology Specialties

Effective Fall 2016, Instructional Technology (IT) has been renamed Learning Design and Technology (LDT). The university will be transitioning to this new title for all related majors and courses during the 2016-17 academic year. Please contact the Division of Administrative and Organizational Services in the College of Education for more information.

Each degree, certificate and endorsement program in Learning Design and 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
- 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 Learning Design and Technology (<http://coe.wayne.edu/aos/ldt>) webpage.

- Educational Leadership (M.Ed.) (p. 89)
- Administration and Supervision (Education Specialist Certificate) (p. 88)
- Educational Leadership and Policy Studies (Ph.D.) (p. 90)
- Educational Leadership and Policy Studies (Ed.D.) (p. 89)
- Learning Design and Technology (M.Ed.) (p. 91)
- Learning Design and Technology (Education Specialist Certificate) (p. 91)
- Learning Design and Technology (Ph.D.) (p. 92)
- Learning Design and Technology (Ed.D.) (p. 90)
- Educational Technology (Bridge Graduate Certificate) (p. 90)
- Online Teaching (Bridge Graduate Certificate) (p. 92)
- Online Teaching (Graduate Certificate) (p. 92)
- College and University Teaching (Graduate Certificate) (p. 89)
- Educational Technology (State of Michigan Endorsement Recommendation) (p. 90)

Administration and Supervision (Education Specialist Certificate)

Admission Requirements

Applicants must have a 2.75 Undergraduate GPA or a 3.40 Graduate GPA in the master's program for regular admission; a master's degree from an accredited institution; submission of official transcripts from the undergraduate and graduate degree institutions; a personal statement to include career/academic goals (500-1000 words); and if applicant is seeking the Special Education Administrator concentration, the following two additional requirements apply:

1. Must have current and valid certification in an area of special education including but not limited to the following: Certified Special Education teacher, School Social Worker, School Psychologist, or Speech & Language Pathologist and
2. a minimum three years of experience in Special Education

Thirty to thirty-nine credits are required for this certificate predicated on the admission status of the applicant as cited below under the concentrations A-D. Basic requirements are cited under Education Specialist Certificate (p. 82). 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.

A. Central Office Administrator Concentration

Applicants with a Master's Degree in Educational Leadership/Administration (thirty credits):

EDA 7670	Economic Issues in Education	4
EDA 8620	School Personnel Administration	4
EDA 8630	Supervision	4
EDA 8990	Internship in Administration	1-8
EPS 9600	Seminar in Research and Theory of Administration	3
ED 7998	Field Studies	1-8
LDT 8135	Technology Applications in Central Administration	3
Electives		6

B. Elementary and Secondary Administrator Concentration

Applicants with Master's Degree other than in Educational Leadership/Administration (thirty credits):

EDA 7625	Leadership, Administration and the Principalship	4
EDA 7660	Administrative Leadership in School-Community Relations and Public Relations	3
EDA 7675	Public School Finance and Budgeting	4
EDA 7690	Introduction to Michigan School Law	4
EDA 8630	Supervision	4
EDA 8650	Staff Development and School Improvement	2-6
EDA 8990	Internship in Administration	1-8
ED 7998	Field Studies	1-8
LDT 6135	Technology Applications in School Administration	2-3

C. Special Education Administrator

(thirty credits):

EDA 7660	Administrative Leadership in School-Community Relations and Public Relations	3
EDA 7675	Public School Finance and Budgeting	4
EDA 7800	Administration and Supervision of Special Education	4
EDA 7810	Michigan Special Education Law	4
EDA 7820	Emergent Policies in Special Education Administration	2
EDA 7830	Practicum in Special Education Administration and Supervision	3-6
EDA 8630	Supervision	4
EDA 8650	Staff Development and School Improvement	2-6
LDT 8135	Technology Applications in Central Administration	3

D. Charter School Administration

(thirty-nine credits):

EDA 7635	Introduction to Charter School Leadership	4
EDA 7640	The Elementary School Principalship	4
or EDA 7650	Secondary School Administration	
EDA 7690	Introduction to Michigan School Law	4
EDA 8630	Supervision	4
EDA 8650	Staff Development and School Improvement	2-6
EDA 8990	Internship in Administration	1-8
ED 7998	Field Studies	1-8
LDT 6135	Technology Applications in School Administration	2-3

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. All Plans of Work are developed in consultation with the student's assigned advisor.

College and University Teaching (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

A minimum of fifteen credits is required for this certificate including:

LDT 7310	Learning Management Systems	4
LDT 8500	Strategies for Teaching in Higher Education	3
Additional courses to meet the minimum number of credit hours, selected with advisor approval		8
Total Credits		15

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

For additional information, please contact: Dr. Timothy Spannaus, Program Director; 313-577-1728, or 313-577-1741.

Educational Leadership (M.Ed.)

Admission Requirements

Applicants must have a 2.75 Undergraduate GPA for regular admission (or a 2.50 Undergraduate GPA for qualified admission); submission of official transcripts from the undergraduate degree institution; and a personal statement to include career/academic goals (500-1000 words).

General requirements for the Master of Education degree may be found at Master of Education (p. 82). This major in educational leadership is offered only as Plan B or C options; specific requirements are as follows:

Required Courses

The required forty-three credits must include:

EDA 7660	Administrative Leadership in School-Community Relations and Public Relations	3
EDA 7670	Economic Issues in Education	4
EDA 7675	Public School Finance and Budgeting	4
EDA 7690	Introduction to Michigan School Law	4
EDA 8650	Staff Development and School Improvement	2-6
EDA 8990	Internship in Administration	1-8
LDT 6135	Technology Applications in School Administration	2-3
ED 7999	Terminal Master's Seminar and Essay or Project	3
EDA 7640	The Elementary School Principalship	4
or EDA 7650	Secondary School Administration	

The following three courses are required as part of the six credit General Professional (Core) Area:

EDA 7600	The Structure of American Education	2
EDP 7350	The Learning Process	2
EER 7610	Evaluation and Measurement	2

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. Students interested in emphasizing special education administration at the master's level should consult with the advisor in that area to select courses.

Educational Leadership and Policy Studies (Ed.D.)

Admission Requirements

Both the Doctor of Education program and the Doctor of Philosophy program in Educational Leadership and Policy Studies require a master's degree from an accredited institution or 30 graduate semester hours beyond the bachelor's degree from an accredited graduate school with no grade lower than 'B' and a graduate GPA of at least 3.50. In addition, an Autobiographical Statement to include career/academic goals and research interests (1000-1500 words), three recommendations (two professional and one academic), and an interview may be required.

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 general requirements for the degrees are stated in the College's Academic Regulations (p. 82). 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	Fundamentals of Statistics	3
EER 7650	Computer Use in Research	3
LDT 9110	Advanced Research Seminar and Practicum	4
or EER 8992	Research and Experimental Design	

In addition, the Ed.D. student will take either EER 7870 or EER 8800. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Educational Leadership and Policy Studies (Ph.D.)

Admission Requirements

Both the Doctor of Education program and the Doctor of Philosophy program in Educational Leadership and Policy Studies require a master's degree from an accredited institution or 30 graduate semester hours beyond the bachelor's degree from an accredited graduate school with no grade lower than 'B' and a graduate GPA of at least 3.50. In addition, an Autobiographical Statement to include career/academic goals and research interests (1000–1500 words), three recommendations (two professional and one academic), and an interview may be required.

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.

The general requirements for the degrees are stated under Doctoral Degrees (p. 85). 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	Fundamentals of Statistics	3
EER 7650	Computer Use in Research	3
LDT 9110	Advanced Research Seminar and Practicum	4
or EER 8992	Research and Experimental Design	

The Ph.D. student will take EER 8800 and either EER 7870 or EER 8820. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

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 Learning Design and 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

For candidates seeking the Educational Technology endorsement, a valid Michigan teaching certificate is required.

The Bridge Certificate in Education Technology requires a minimum of twenty credits including sixteen credits of core courses and four elective credits to be chosen from the courses cited below. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Core Courses

LDT 5140	Producing and Evaluating Technology-Based Instructional Materials	4
LDT 6140	Designing Web Tools for the Classroom	4
LDT 6230	Internet in the Classroom	4
LDT 7980	Capstone Seminar in Learning Technologies	4

Elective Courses

Select one of the following:		4
LDT 7130	Facilitation of On-Line Learning	
LDT 7140	Interactive Course Design	
LDT 7210	Foundations of Distance Education	

Total Credits 20

Educational Technology (State of Michigan Endorsement Recommendation)

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.

A minimum of eighteen credits is required for the endorsement, including:

LDT 5140	Producing and Evaluating Technology-Based Instructional Materials	4
LDT 6140	Designing Web Tools for the Classroom	4
LDT 6230	Internet in the Classroom	4
LDT 7980	Capstone Seminar in Learning Technologies	4
One elective course		2

Total Credits 18

Learning Design and Technology (Ed.D.)

Admission Requirements

Admission to the Ph.D. and Ed.D. programs in Learning and Design 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.

The general requirements for these degrees are stated at Doctor of Education Requirements (p. 82).

Core requirements in the major include:

LDT 7100	Foundations of Instructional Technology	3
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LDT 7111	Design Thinking and Knowledge	4
LDT 7150	Evaluation of Learning and Performance	4
LDT 7320	Human Performance Technology	4
LDT 8100	Background, Issues and Trends in Instructional Technology	4
LDT 8110	Advanced Instructional Design Theory and Research	4
Total Credits		23

In addition, Ed.D. students are required to complete twenty-four credits in LDT professional focus area. Students with a K-12 Technology Integration focus must take a minimum of six credits in Foundations of Education (Doctoral Seminars). Two courses are to be selected from:

EHP 9600	Doctoral Seminar in Philosophy of Education	3
EDP 9310	Doctoral Seminar in Educational Psychology	3
EDS 9620	Doctoral Seminar in Educational Sociology	3
TED 9130	Doctoral Seminar in Curriculum and Instruction	3
EDA 9790	Doctoral Seminar in Educational Administration	3

Eighteen credits in research courses are required in this program for both Ph.D. and Ed.D. students.

Additional coursework is required in a cognate area and in dissertation research requirements.

A minimum of ninety credits are required for a doctoral degree in Learning Design and Technology. All doctoral committees must include a minimum of two faculty members from Learning Design and Technology; three LDT faculty members are preferred for Ph.D. students. All Plans of Work are developed in consultation with the student's assigned advisor.

Learning Design and Technology (Education Specialist Certificate)

Admission Requirements

Three academic recommendations and a resume are required. Related work experience is expected of students who have no previous course work in Learning Design and Technology.

A minimum of thirty-one credits is required for this certificate. The Plan of Work for the Education Specialist Certificate in Learning Design and Technology is highly individualized. Basic certificate requirements may be found at Education Specialist Certificate (p. 84). Courses required are LDT 8100 and LDT 8110. Students who do not have a previous degree in LDT will normally include additional courses from the M.Ed. plan of work (see above). The remainder of the plan of work is created by the student with the advice and approval of the advisor. The plan of work must present a coherent academic program with a clear area of focus.

Learning Design and Technology (M.Ed.)

Admission Requirements

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.

There are two program emphases at the Master's level:

1. Design and Performance Systems

2. Learning Technologies

Each emphasis is directed toward different career opportunities. General requirements may be found under the Master of Education (p. 82) section. This degree is offered only as a Plan C option, as defined under the general requirements section. Courses required for the curricular emphases are:

Emphasis 1: (Concentration in Design and Performance Systems)

Required Courses

LDT 7100	Foundations of Instructional Technology	3
LDT 7111	Design Thinking and Knowledge	4
LDT 7140	Interactive Course Design	4
LDT 7150	Evaluation of Learning and Performance	4
LDT 7850	Needs Assessment and Analysis	4
LDT 7940	Capstone Course in Learning Design and Technology	4

Electives

Select eight credits of the following:		8
LDT 7115	Understanding the Adult Learner	
LDT 7140	Interactive Course Design	
LDT 7180	Message Design for Learning	
LDT 7210	Foundations of Distance Education	
LDT 7220	Multimedia for Instruction	
LDT 7230	Advanced Multimedia for Instruction	
LDT 7310	Learning Management Systems	
LDT 7320	Human Performance Technology	
LDT 8120	Practicum in Instructional Technology	
LDT 8320	Performance Consulting and Analysis	

Total Credits 31

Emphasis 2

Required Courses

LDT 7100	Foundations of Instructional Technology	3
LDT 7111	Design Thinking and Knowledge	4
LDT 7150	Evaluation of Learning and Performance	4
LDT 7980	Capstone Seminar in Learning Technologies	4

Other credits

Select 17 credits of the following:		17
LDT 5140	Producing and Evaluating Technology-Based Instructional Materials	
LDT 6230	Internet in the Classroom	
LDT 6140	Designing Web Tools for the Classroom	
LDT 7130	Facilitation of On-Line Learning	
LDT 7140	Interactive Course Design	
LDT 7180	Message Design for Learning	
LDT 7210	Foundations of Distance Education	
LDT 7220	Multimedia for Instruction	
LDT 7230	Advanced Multimedia for Instruction	
LDT 8120	Practicum in Instructional Technology	

Total Credits 32

Requirements for the credits in General Professional Core (p. 82) courses vary in terms of the program emphasis. All course work must be completed in accordance with the academic procedures of the College

of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Online Programs: Each of the two Learning Design and Technology M.Ed. program emphases are offered online. For further information on the online programs please consult the College of Education (<http://coe.wayne.edu/aos>) website. All Plans of Work are developed in consultation with the student's assigned advisor.

Learning Design and Technology (Ph.D.)

Admission Requirements

Admission to the Ph.D. and Ed.D. programs in Learning and Design 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.

The general requirements for these degrees are stated at Doctor Degrees (p. 85).

Core requirements in the major include:

LDT 7100	Foundations of Instructional Technology	3
LDT 7111	Design Thinking and Knowledge	4
LDT 7150	Evaluation of Learning and Performance	4
LDT 7320	Human Performance Technology	4
LDT 8100	Background, Issues and Trends in Instructional Technology	4
LDT 8110	Advanced Instructional Design Theory and Research	4
Total Credits		23

In addition, Ph.D. students are required to complete sixteen credits in LDT professional focus areas.

Students with a K-12 Technology Integration focus must take a minimum of six credits in Foundations of Education (Doctoral Seminars). Two courses are to be selected from:

EHP 9600	Doctoral Seminar in Philosophy of Education	3
EDP 9310	Doctoral Seminar in Educational Psychology	3
EDS 9620	Doctoral Seminar in Educational Sociology	3
TED 9130	Doctoral Seminar in Curriculum and Instruction	3
EDA 9790	Doctoral Seminar in Educational Administration	3

Eighteen 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	Fundamentals of Statistics	3
EER 7870	Qualitative Research I: Introduction	3
Select one of the following:		3-4
EER 7880	Fundamentals of Ethnographic Research	
EER 8700	Advanced Qualitative Evaluation: Theory and Practice	
EER 8800	Variance and Covariance Analysis	
LDT 9105	Conducting Research in Learning Design and Technology	4
LDT 9110	Advanced Research Seminar and Practicum	4

Additional coursework is required in a cognate area and in dissertation research requirements.

A minimum of ninety credits are required for a doctoral degree in Learning Design and Technology. All doctoral committees must include a minimum of two faculty members from Learning Design and Technology; three LDT faculty members are preferred for Ph.D. students. All Plans of Work are developed in consultation with the student's assigned advisor.

Online Teaching (Bridge Graduate Certificate)

The Bridge Graduate 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 Learning Design and Technology if they decide to pursue that degree after completing the Certificate.

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17).

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 academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Core Courses

LDT 7130	Facilitation of On-Line Learning	4
LDT 7210	Foundations of Distance Education	4
LDT 8120	Practicum in Instructional Technology ¹	1-9

Elective Courses

Select two of the following:		8
LDT 6140	Designing Web Tools for the Classroom	
LDT 6230	Internet in the Classroom	
LDT 7140	Interactive Course Design	
LDT 7220	Multimedia for Instruction	
LDT 7230	Advanced Multimedia for Instruction	
LDT 7310	Learning Management Systems	

¹ Upon consent of the Certificate Program Director, specific previous online teaching experience may be substituted for the LDT 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.

Online Teaching (Graduate Certificate)

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 Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17).

A minimum of twelve credits is required for this certificate including:

LDT 7130	Facilitation of On-Line Learning	4
LDT 7210	Foundations of Distance Education	4
LDT 8120	Practicum in Instructional Technology	1-9

Additional courses to meet the minimum number of credit hours are selected with advisor approval. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

For additional information, please contact: Dr. Ke Zhang, Program Director; 313-577-1728, or 313-577-1679.

Kinesiology, Health and Sport Studies

Office: 2152 Faculty Administration Building; 313-577-4249

Assistant Dean: Nate McCaughtry
<http://coe.wayne.edu/kinesiology/>

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, 2177 FAB. 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 Julie Osburn, Chair of the College of Education Scholarship Committee; julie.osburn@wayne.edu or 313-577-0909.

Admission to Master's Programs

Current and prospective students should always review the KHS webpage (<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 (p. 17). 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.

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.

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, 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.

- Health Education (M.Ed.) (p. 94)
- Kinesiology (M.Ed.) (p. 95)
 - Physical Education Pedagogy Concentration (M.Ed.) (p. 95)
 - Exercise and Sport Science Concentration (M.Ed.) (p. 95)
- Sports Administration (M.A.) (p. 96)
- Adapted Physical Education (Teaching Endorsement) (p. 94)
- Kinesiology (Ph.D.) (p. 96)

Adapted Physical Education (Teaching Endorsement)

This program leads to a state teaching 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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the Division (p. 93). Additionally, applicants must possess a valid Michigan teaching certificate in physical education or any area of special education.

Endorsement Requirements

KIN 5400	Adapted Physical Activity	3
KIN 5410	Methods and Materials: Adapted Aquatics	3
KIN 5420	Disability and Sports	3
KIN 5425	Assessment and Service Delivery in Adapted Physical Education	3
KIN 5430	Leadership Training and Practicum in Adapted Physical Education	3
SED 5030	Education of Exceptional Children	3
SED 5140	Behavior Management: Positive Behavior Support	3
Total Credits		21

Health Education (M.Ed.)

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. Successful completion

of the degree program prepares students to become Certified Health Education Specialists (CHES).

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

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 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 academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

General Professional Courses

EER 7630	Fundamentals of Statistics	3
HE 7310	Psychology of Learning Across Development	3

Required Specialization Courses

HE 6350	Health Education and the Nation's Health	3
HE 6420	Introduction to Health Education Program Design	3
HE 6530	Principles and Practice of Health Education and Health Promotion	3
HE 6501	Measurement and Evaluation in Community Health Education	3
HE 6550	Teaching Methods and Techniques in Health Education	3
HE 5522	Health Psychology	3
KHS 8540	Theories of Health Behavior	3
Select one of the following:		3-8
KHS 7999	Master's Essay and Project Direction	
KHS 8999	Master's Thesis Direction	
KHS 8750		

Total Credits 30-35

M.Ed. With Teaching Endorsement

Teachers who possess a current Michigan teaching certificate may earn a health teaching endorsement by selecting this option.

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

LFA 2330	First Aid and CPR	3
HE 4340	Family and Reproductive Health (or equivalent)	3

Required Health Education Courses		
HE 5220	Health Behavior Change	3
HE 5440	Mental Health and Substance Abuse	3
HE 5620	Performance Based Assessment in Health Education	3
HE 6350	Health Education and the Nation's Health	3
HE 6500	Comprehensive School Health Education	3
HE 6550	Teaching Methods and Techniques in Health Education	3
Select one of the following:		1-3
KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
KHS 7990	Special Problems in KHS (Max. 9)	
RLL 6802	Assessment and Differentiated Instruction for Diverse Learners: 6-12	
HE 5522	Health Psychology	3
General Professional Courses		
Select three of the following:		6
CED 6700	The Role of the Teacher in Guidance	
EDP 5480	Adolescent Psychology	
EDP 7350	The Learning Process	
EER 7630	Fundamentals of Statistics	
EHP 7600	Philosophy of Education	
Total Credits		34-36

Kinesiology (M.Ed.)

The Master of Education with a Major in Kinesiology is offered under two concentrations:

- Physical Education Pedagogy
- Exercise and Sport Science

Completion of this degree requires satisfaction of one of these specializations as outlined below.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the Division of Kinesiology, Health and Sport Studies (p. 82).

This Master of Education with a major in Kinesiology 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
- **Plan C:** Thirty credits (neither thesis or project required)

Exercise and Sport Science (M.Ed.)

This graduate degree in kinesiology with an exercise and sport science concentration is designed to prepare students on the knowledge and skill in sport and fitness activities, psychology of exercise and sport, apply knowledge about human movement systems to fitness/wellness, and analyze and evaluate human performance of individuals in various age groups and at differing fitness levels.

Degree Requirements

Thirty credits are required. Students selecting this program will concentrate in one of four areas:

- biomechanics
- exercise physiology

- motor control/development/learning
- exercise and sport psychology

Required Courses

KIN 5523	Physical Activity and Exercise Psychology	3
KIN 6210	Physical Activity and Cognition	3
KIN 6310	Exercise Physiology II	3
KIN 6320	Fitness Assessment and Exercise Prescription	3
KIN 7580	Biomechanical Analysis of Motor Activity	3
KIN 8530	Motor Learning	3

Culminating Experience

Select one of the following: 3-8

KHS 7999	Master's Essay and Project Direction	
KHS 8999	Master's Thesis Direction	
KHS 8750		

Elective Courses

Select courses as approved by advisor to complete the thirty credits required for graduation 9

Total Credits 30-35

Physical Education Pedagogy (M.Ed.)

This specialization is designed to prepare students for academic or professional careers in teaching physical education or physical activity leadership. It involves the study of concepts related to conducting physical activity programs, with an emphasis on those relating to school-based, community-based and sport-based 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 requires a minimum of thirty credit including 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 academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

General Professional Courses

Select six credits of the following:		6
CED 6700	The Role of the Teacher in Guidance	
EDP 5450	Child Psychology	
EDP 5480	Adolescent Psychology	
EDP 7350	The Learning Process	
EER 7630	Fundamentals of Statistics	
EER 7870	Qualitative Research I: Introduction	
EHP 7600	Philosophy of Education	
SED 5030	Education of Exceptional Children	
SED 5140	Behavior Management: Positive Behavior Support	

Major Requirement/Elective Courses

Select 24 credits of the following (Sample courses to fulfill this requirement might include but are not limited to the following): 24

KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
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KHS 7990	Special Problems in KHS	
KHS 7999/8999	Master's Essay and Project Direction	
KIN 5110	Motor Learning and Development	
KIN 5210	Movement Education	
KIN 5220	Sports I	
KIN 5240	Fitness Instruction	
KIN 5200	Effective Teaching and Instructional Practices	
KIN 5530	Technology and Assessment in Kinesiology	
KIN 5600	Socio-cultural Issues in Physical Activity	
KIN 7560	Achievement Motivation in Physical Education	
KIN 8530	Motor Learning	
KIN 5400	Adapted Physical Activity	
KIN 5420	Disability and Sports	
KIN 5425	Assessment and Service Delivery in Adapted Physical Education	
KIN 5430	Leadership Training and Practicum in Adapted Physical Education	
Total Credits		30

Kinesiology (Ph.D.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the Division (p. 93).

The general requirements for this degree are stated in the Doctor of Education Requirements (p. 82). 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.

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) 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.

Required Core Courses

Physical Education Pedagogy Concentration

KHS 9600	Doctoral Seminar in Kinesiology, Health and Sport Studies	3
KIN 7560	Achievement Motivation in Physical Education	3
KIN 8400	Research in Physical Education	3

Additional credits of approved Kinesiology courses	6
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Exercise and Sport Science Concentration

KHS 8700	Research in the Psychosocial Aspects of Physical Activity	3
KHS 9600	Doctoral Seminar in Kinesiology, Health and Sport Studies	3
KIN 6310	Exercise Physiology II	3
KIN 7580	Biomechanical Analysis of Motor Activity	3
KIN 8530	Motor Learning	3
Six additional credits of approved Kinesiology courses		6

Requirements for Both Concentrations

Statistics and research methods courses as approved	15
Doctoral seminar courses as approved	6
Cognate courses: Ten credits in the student's area of interest.	10
Elective courses: Additional courses in student's area of interest to meet the total requirement of ninety credits.	5-8
Dissertation Courses	30

Sports Administration (M.A.)

This online M.A. 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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the Division (p. 93).

This Master of Arts degree is offered as a Plan C option. Plan C requires thirty-four credits in course work including twenty-four 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 academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Required Courses	24
KHS 6410	
KHS 6570	
KHS 6660	
KHS 6661	
KHS 7540	
KHS 7581	
KHS 8750	
Additional Courses	6
Total Credits	30

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.

Teacher Education

Assistant Dean: Kathleen Crawford-McKinney
Office: 241 Education Building; 313-577-0122
Art Education Advising Office: 163 Community Arts Building
<http://coe.wayne.edu/ted>

Graduate Teacher Education

The graduate unit of the Division of Teacher Education emphasizes the development of competence in instruction, the improvement of curriculum at all levels, and the ability to conduct scholarly research. The graduate programs in teacher education are designed to prepare educators and researchers 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 schooling 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 and schooling;
- cognizant of the uniqueness of urban and metropolitan areas;
- cognizant of the values and contributions of various racial, ethnic, gender, sexual, national, ability 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 reflect on and develop their own patterns of ethical behavior;
- able to serve educational institutions 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 education.
- English as a Second Language (Bridge Graduate Certificate) (p. 104)
 - Education Specialist Certificate (p. 102)
 - Curriculum and Instruction (Ph.D. & Ed.D.) (p. 100)
 - Reading, Language and Literature (Ed.D.) (p. 105)
 - Special Education (Ph.D & Ed.D.) (p. 109)
 - Early Childhood Education, Infant Mental Health Dual-Title (Ph.D. Program) (p. 101)
 - Secondary Education Major (M.A.T.) (p. 106)
 - Elementary Education Major Leading K-8 Certification (M.A.T.) (p. 102)

- Physical Education Pedagogy (M.A.T.) (p. 104)
- Art Education (M.Ed.) (p. 99)
- Career and Technical Education (M.Ed.) (p. 100)
- English Education (Secondary) (M.Ed.) (p. 104)
- Reading (M.Ed.) (p. 105)
- Teaching and Learning (M.Ed.) (p. 109)
- Bilingual Education (Bridge Graduate Certificate) (p. 100)

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, 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. In general, 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: Health and Physical Education, Language-Arts, Mathematics, Science, Social Studies, Technology and the Arts. 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 advance to 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 Professional Readiness Examination (PRE)

All students seeking admission to a M.A.T. or post-bachelor teacher certification program are required to pass the State PRE 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 when all certification requirements have been met, which usually occurs upon the completion of the professional education sequence of the M.A.T. program.

Elementary Provisional Certificate—for Kindergarten through Grade Five all subjects, Kindergarten through Grade Eight in a self-contained classroom, and Kindergarten through Eight in subjects corresponding to majors and minors.

1. The candidate must have graduated with a bachelor's degree from an approved or accredited institution.
2. Students seeking elementary certification must meet major/minor requirements according to the curriculum guide see academic advisor. All Elementary Programs must include the Planned Program/ Comprehensive Major.
3. Completion of a 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 be recommended for a teaching certificate in the State of Michigan. Also, a Michigan State Police Criminal Background check no more than six months old is required.

Secondary Provisional Certificate—for Grades Six through Twelve

1. The candidate must have graduated with a bachelor's degree from an approved or accredited teacher education institution.
2. In general, the academic background must include a single subject major or a group major, and one minor in subjects in which the applicant expects to teach that are appropriate to the Secondary level. Some subjects are available as comprehensive group majors; a minor is not required.
3. Career and 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.
4. Completion of a professional education sequence is required.
5. 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 be recommended for a teaching certificate in the State of Michigan. Also, a Michigan State Police Criminal Background check no more than six months old is 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, 489 Education Building.

Professional Education Certificate

This certification is available to holders of provisional certificates who have taught successfully for three years since the issue date, and within the validity and grade level of the teaching certificate after the issue date of their Provisional certificate and have completed within 5 years prior to application 6 credits or 150 State Continuing Education Clock Hours (SCECHs) or 150 District Provided Professional Development (DPPDs) or have a master's degree. Professional development opportunities may be combined with university credits to meet the academic requirement. A course in Assessment and Differentiated Instruction in Reading is also

required (RLL 6801 for Elementary teachers or RLL 6802 for Secondary teachers).

In addition to the above requirements, all candidates for an elementary five-year professional certificate must have completed the six credits in reading instruction in either their undergraduate or postgraduate preparation, three of which must be reading in the content areas.

In addition to the above 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.

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. Interested students should consult a Bilingual/ESL advisor.

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. Interested students should consult a Bilingual/ESL advisor.

Early Childhood General and Special Education (ZS) Endorsement

The Early Childhood General and Special Education (ZS) endorsement is designed to ensure that teachers working with children from birth to the age of eight years and their families obtain specialty area preparation in early childhood education (ECE) to include working with children with developmental delays or disabilities. Teachers holding an elementary certificate must complete 26-credit hours of course work, lead-teaching experience with two age groups, and pass the Michigan Test for Teacher Certification (MTTC) to obtain the ZS endorsement. The endorsement program consists of a minimum of 26 credits across specified areas beyond the Provisional Certificate requirements and lead-teaching experience in teaching two of the following three age levels:

1. infant toddlers,
2. preschool,
3. kindergarten third grade, to include experience with Individual Family Service Plan (IFSP) and/or Individual Education Program (IEP) for young children receiving special education.

The courses may be part of a master's, education specialist, or doctor of education program. Interested students should consult an ECE 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.

Vocational Endorsement

A vocational endorsement is available for secondary occupational instructional programs in Career and Technical Education (<http://coe.wayne.edu/ted/career/certificates->).

Student Teaching

Application: Each student must make application for student teaching during the appropriate application period. The date a completed application form is submitted to the Office of Clinical Experiences (221 Education Building.) will determine the semester during which student teaching will take place. Student teaching application periods are as follows:

FALL SEMESTER: Applications are due by December 1 of the previous year

WINTER SEMESTER: Applications are due by April 1 of the previous year

Procedures for Student Teaching Application

1. Confer with advisor to determine eligibility for student teaching.
2. Complete application forms provided by the Office of Clinical Experiences, 221 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. A WSU cumulative graduate g.p.a. of at least 3.0
3. Completion of the professional education sequence coursework.
4. Completion of the teaching major and minor(s) as defined by the student's curriculum area in the College of Education.
5. Satisfactory completion of appropriate pre-student teaching courses and appropriate methods courses as outlined by the student's Plan of Work.
6. Satisfactory tuberculosis test within six months before assignment begins.
7. Passing scores on state examinations: (Professional Readiness Examination and Subject Area Examinations).
8. Criminal background check and fingerprinting if required by the school district.

Art Education (M.Ed.)

This program follows the general admission and degree requirements for the Master of Education (p. 83). Additional tabs enumerate the specific amendments/variations to generic requirements, as well as program options.

Art Education (Visual Art Education) (M.Ed.)

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

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.

Art Therapy (M.Ed.)

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 (CD preferred) 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.

Art Education (Visual Art Education) (M.Ed.)

This program requires thirty credits in course work:

TED 7000	Introductory Master's Seminar	2
ED 7999	Terminal Master's Seminar and Essay or Project	3
Professional education courses		6
Additional Art Education Courses		19
Total Credits		30

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. All coursework must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Art Therapy (M.Ed.)

This program is offered as a master's Plan B. A minimum of forty-eight credits is required for this concentration:

Art therapy	24
General professional sequence	6
Psychopathology	3
Research	6
Practicum and internship	9
Total Credits	48

A related essay or project of substantial quality concludes the program. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. Interested candidates should contact the Art Education Art Therapy office for additional information: Room 163, Community Arts Building; telephone: 313-577-1823.

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 examination 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 Bilingual-Bicultural Education 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 (p. 17). 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 (nonEnglish) 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/>

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 academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Required Courses

BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
Select one of the following:		3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	
LIN/ENG 5770	Sociolinguistics	
BBE 6600	Internship in Bilingual/Bicultural Teaching	2
BBE 6850 or LED 6520	Applied Linguistics: Issues in Bilingual Education Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	1
LIN/ENG 5730	English Grammar	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		21

Career and Technical Education (M.Ed.)

This program follows the general admission and degree requirements for the Master of Education (p. 83). Additional tabs enumerate the specific amendments/variations to generic requirements, as well as program options.

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 six credits in a planned program within the previous five years, the required three

years of appropriate teaching experience, and a course in Assessment and Differentiated Instruction in Reading (RLL 6802), the certified teacher may be eligible for both the five-year professional education certificate and the Occupational Education certificate. Teachers with a vocational certification only, may be eligible for the Occupational Certificate upon completing the requirements above.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

The program consists of a minimum of thirty credits. Required courses include:

CTE 6010	History and Principles of Career and Technical Education	3
CTE 6999	Coordination of Cooperative Occupational Education	3
CTE 7820	Planning and Organizing Instruction in Career and Technical Education	3
CTE 8998	Current Issues and Trends	3
TED 7000	Introductory Master's Seminar	2-3
EER 7610	Evaluation and Measurement	2-3
ED 7999	Terminal Master's Seminar and Essay or Project	3
Additional courses selected in consultation with an advisor		11
Total Credits		30-32

Deficiencies in relevant work experience must be completed in addition to the required thirty credits. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

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.

Curriculum and Instruction (Ph.D. and Ed.D.)

The Doctor of Education (Ed.D.) and the Doctor of Philosophy (Ph.D.) programs prepare professional educators and researchers for positions in institutions of higher learning, educational research 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 various areas of curriculum and educational research; and who will serve as agents of change, creating and expanding the varied institutions and programs needed for the continuing development of educators. 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 metropolitan society; and

- 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

The College of Education has specific requirements for admission to doctoral programs (p. 85).

K-12 Curriculum Concentration (Ph.D. and Ed.D)

The doctoral program adopts an interdisciplinary approach to teaching and learning, acknowledging the relationship among the learner, the learning, and the learning environment and the consequences this approach has for educational theory, policy, and practice. The program emphasizes the interrelationship between cultural/linguistic diversity and learning and utilizes learners' experiences in curriculum studies. The socio-cultural context of learning in the educative process promotes equity and excellence within larger political and institutional settings. The important frames guiding the doctoral study are the integration of theory and research; the importance of reflection in learning; the role of gender, race, ethnicity, culture, and class as social constructions, which profoundly impact and inform teaching and learning; and the establishment of collaborative partnerships for community-based research. The doctoral program provides a forum that brings together the latest academic and policy discussions, and promotes critical inquiry, discourse, and debate, on the often complex interconnections in education.

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 TED 8280; TED 9130 is recommended but not required. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

The K-12 curriculum (Curriculum Studies) area of emphasis, within the curriculum and instruction program, requires the following courses in the major area:

TED 8130	Basic Principles of Curriculum and Instruction	3
TED 8270	Seminar: Issues in Curriculum and Instruction	2-6
TED 8280	Research Seminar: Curriculum and Instruction I	3
TED 9130	Doctoral Seminar in Curriculum and Instruction	3

Early Childhood Education, Infant Mental Health Dual-Title (Ph.D. Program)

The Doctor of Education (Ed.D.) and the Doctor of Philosophy (Ph.D.) programs prepare professional educators and researchers for positions in institutions of higher learning, educational research 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 various areas of curriculum and educational research; and who will serve as agents of change, creating and expanding the varied institutions and programs needed for the continuing development of educators. 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

- the legitimacy of the emerging pattern of inter-institutional partnerships in teacher education at all levels;
- the significance of the diverse nature of metropolitan society; and
- 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

The College of Education has specific requirements for admission to doctoral programs (p. 85).

The dual-title degree is designed to prepare early childhood educators and infant mental health specialists on recommended practices aimed to promote the young child's social and emotional development within the contexts of parent-child and adult-child relationships to include the adult's psychological development and learning as a parent/caregiver; including children and/or parents who have developmental delays or disabilities, and/or physical health or mental health concerns. The dual-title coursework follows competencies outlined by the MI-AIMH required for the Level 2 endorsement (i.e., Infant Family Specialist).

Admission Requirements

Applicants must meet the admission standards and requirements of the Graduate School (p. 17) and the College of Education (p. 85). Applicants can indicate interest in the dual-title IMH, ECE program on their initial online application or may discuss their interest in the graduate program with their faculty advisor.

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 TED 8280; TED 9130 is recommended but not required. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Students are required to successfully complete 12-14 credit hours of IMH coursework. All students must maintain a "B" grade point average or above in the following courses:

ELE 7025		2
ELE 7035	Infant and Toddler Developmental Assessment for Intervention Planning	3
NUR 7880	Infant/Family Mental Health Assessment	2
SW 7010	Infant Mental Health Practice	2
SW 8883	Infant Mental Health Seminar I	1

SW 8884	Infant Mental Health Seminar II	1
PSY 7425	Psychology of Infant Behavior and Development	3
Total Credits		14

All coursework must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

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

Admission to this program is contingent upon admission to the College of Education (p. 84) and the Graduate School (p. 17).

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. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Elementary Education Major Leading K-8 Certification (M.A.T.) Teaching (M.A.T. Program)

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 at Certification Requirements). Each of the M.A.T. programs consists of graduate level courses (several involving work with children in a school setting) and field experiences (pre-student teaching for one semester and student teaching for one semester).

Information regarding teaching certificate requirements can be found at Teaching Certificates of this bulletin.

Admission to the Master of Arts in Teaching is contingent upon admission to the Graduate School (p. 17). 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 of Michigan Professional Readiness Exam (PRE) and must present verification of participation in group work with children and (not older than 6-months from application date) 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) (<http://www.mttc.nesinc.com>) examination scores (PRE 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. 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 advisor in the Teacher Education Division regarding appropriate teaching majors and minors and the process for a formal transcript evaluation.

Degree Requirements (General M.A.T.)

M.A.T. programs require a minimum of forty credits. Total credit requirements vary based 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 (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. 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:

Code	Title	Credits
EDP 6210	Foundations of Educational Psychology	3
EHP 7600	Philosophy of Education	2-3

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:

Code	Title	Credits
TED 5150	Analysis of Elementary Teaching	3, 5
TED 5650	Pre-Student Teaching Field Experience for Secondary Majors	5
TED 5780	Directed Teaching and Conference	1-12
TED 5790	Directed Teaching and Conference for Special Groups	1-15
BBE 6600	Internship in Bilingual/Bicultural Teaching	2-12

Information on the student teaching phases of the program is presented at Student Teaching of this bulletin.

Elementary Education Major Leading to K-8 Certification (M.A.T. Program)

Elementary Education Major

Major Requirements

Courses must be completed prior to student teaching		
AED 5050	Integrating the Arts into the Elementary Classroom	3
EDP 6210	Foundations of Educational Psychology	3
TED 5150	Analysis of Elementary Teaching	3,5
RLL 6120	Developmental Reading I: Comprehension Preprimary-8	3
ELE 6200	Children's Literature for Teachers	3
ELE 6290	Language Arts Instruction: P-8	3
ELE 6310	Reading Instruction: P-8	3
ELE 6390	Mathematics Instruction: P-8	3
ELE 6500	Science Curriculum: P-8	3
ELE 6600	Social Studies Curriculum: P-8	3
BBE 5000	Multicultural Education in Urban America	2
SED 5010	Inclusive Teaching	2
Total Credits		34-36

Students wishing additional specialized endorsement may elect to complete one of the minor concentrations on the next tab.

Elementary Education Minor Concentrations (M.A.T. Program)

Early Childhood General and Special Education (ZS)

In addition to the elementary education requirements stated on the previous tab, students seeking an Early Childhood General and Special Education (ZS) endorsement on their teaching certificate may choose the ZS as a minor.

Courses to be completed prior to student teaching:

EDP 6210	Foundations of Educational Psychology	3
TED 5150	Analysis of Elementary Teaching	3,5
RLL 6120	Developmental Reading I: Comprehension Preprimary-8	3
ELE 6020	Seminar in Early Childhood	3
ELE 6040	Role of Content Areas in Early Childhood Education	2-8
ELE 6200	Children's Literature for Teachers	3
ELE 6310	Reading Instruction: P-8	3
ELE 6340	Teaching Reading in Early Childhood Education	3
ELE 6390	Mathematics Instruction: P-8	3
ELE 6600	Social Studies Curriculum: P-8	3
Other courses required for the ZS endorsement minor and the M.A.T. degree:		
EDP 5450	Child Psychology	2-3
ELE 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	3-4
or ELE 6060	Community Contacts: Working with Families in Urban Settings	
ELE 6080	Preprimary Goals and Practices	3
SED 6040	Introduction to Early Childhood Special Education	3
BBE 5000	Multicultural Education in Urban America	2
SED 5010	Inclusive Teaching	2

EHP 7600	Philosophy of Education	2-3
Total Credits		46-57

The plans for the ZS minor must be done in consultation with their faculty advisor.

Bilingual/Bicultural Education

In addition to the elementary education requirements stated on the previous tab, students seeking an M.A.T. in elementary education with a bilingual/bicultural minor and endorsement must complete:

BBE 5000	Multicultural Education in Urban America	2
BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	1-3
BBE 6600	Internship in Bilingual/Bicultural Teaching	2-12
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
TED 7000	Introductory Master's Seminar	2-3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	1-3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23-38

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 on the previous tab, students seeking an M.A.T. in elementary education with an English as a Second Language minor and endorsement must complete:

BBE 6600	Internship in Bilingual/Bicultural Teaching	2-12
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	1-3
LED 6565	Assessment in Language Teaching	1-3
LED 6580	Culture as the Basis for Language Teaching	2-4
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		18-34

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 on the previous tab, 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.

Foreign Language Education, K-12

In addition to the elementary education requirements described on the previous tab, students seeking an elementary certification with a K-12 foreign language endorsement must complete the coursework for a teaching major in the foreign language and the following prerequisites:

LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	2-3
EDP 5480	Adolescent Psychology	2-3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		7-9

Special Education

In addition to the elementary education requirements stated on the previous tab, 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.

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the College of Education (p. 82). Additionally, applicants must possess a valid Michigan teaching certificate.

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 academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Required Courses

BBE 6600	Internship in Bilingual/Bicultural Teaching	2
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
or LIN/ENG 5730	English Grammar	
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
or LIN/ENG 5750	Theories of Second Language Acquisition	
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3

LED 6555	Integration of Language and Content in Language Teaching	1
LED 6565	Assessment in Language Teaching	3
LED 6580	Culture as the Basis for Language Teaching	3
or LIN/ENG 5770	Sociolinguistics	
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		21

English Education (Secondary) (M.Ed.)

This program follows the general admission and degree requirements for the Master of Education (p. 83). Additional tabs enumerate the specific amendments/variations to generic requirements, as well as program options.

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 to this program requires a teaching certificate and at least twenty-one credits in English.

The Master of Education is offered in this area under Plans A, B, or C. This program requires a minimum of thirty credits distributed as follows:

Major course work including the final essay or project	17
General professional courses selected from such fields as educational psychology, educational philosophy, educational sociology, educational evaluation and research, and guidance and counseling	6
Cognate courses selected to enrich the teaching major or minor	7-9
Total Credits	30-32

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. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

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.

Physical Education Pedagogy (M.A.T.)

Teaching (M.A.T. Program)

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 at Certification Requirements). Each of the M.A.T. programs consists of graduate level courses (several involving work with children in a school setting) and field experiences (pre-student teaching for one semester and student teaching for one semester).

Information regarding teaching certificate requirements can be found at Teaching Certificates of this bulletin.

Admission to the Master of Arts in Teaching is contingent upon admission to the Graduate School (p. 17). 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 of Michigan Professional Readiness Exam (PRE) and must present verification of participation in group work with children and (not older than 6-months from application date) 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) (<http://www.mttc.nesinc.com>) examination scores (PRE 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. 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 advisor in the Teacher Education Division regarding appropriate teaching majors and minors and the process for a formal transcript evaluation.

Students must complete at least forty-nine credits preceded by any identified prerequisites. Teacher certification is required for degree completion. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. Courses offered in the three components of the program are as follows:

Teacher Certification Courses

KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5210	Movement Education	3
KIN 5220	Sports I	3
KIN 5240	Fitness Instruction	3
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
KIN 5600	Socio-cultural Issues in Physical Activity	3
EDP 6210	Foundations of Educational Psychology	3
KIN 5780	Student Teaching and Seminar	10

RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
Select one of the following:		3
KIN 5230	Sports II	
KIN 5350	Exercise Science Internship	
KIN 5260	Aquatic Leadership	
Master's Degree Finalization Course		
KHS 7999	Master's Essay and Project Direction	3
Total Credits		49

Reading (M.Ed.)

This program follows the general admission and degree requirements for the Master of Education (p. 83). Additional tabs enumerate the specific amendments/variations to generic requirements, as well as program options.

This program services graduates of bachelor's degree programs who wish to develop and/or strengthen their expertise in literacy instruction in pre-primary 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

Admission to this program is contingent upon admission to the Graduate School (p. 17).

This degree is offered under Plan C, requiring a minimum of thirty-six credits in course work distributed as follows:

RLL 7100	Emergent Literacy	3
RLL 7200	Comprehension	3
RLL 7300	Literacy Across the Curriculum	3
RLL 7350	Organization and Supervision of Literacy Programs	3
RLL 7400	Practicum and Seminar in Evaluation and Instruction	3
RLL 7500	Theoretical Foundations for Literacy	3
General Professional Courses (see General Professional Requirements: Fundamental Areas and Core Courses)		6
Elective credits		6
Total Credits		30

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Reading, Language and Literature (Ed.D)

The Doctor of Education (Ed.D.) and the Doctor of Philosophy (Ph.D.) programs prepare professional educators and researchers for positions in institutions of higher learning, educational research 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 various areas of curriculum and educational research; and who will serve as agents of change, creating and expanding the varied institutions and programs needed for the continuing development of educators. 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 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

The College of Education has specific requirements for admission to doctoral programs (p. 85).

The Doctor of Education (Ed.D) in Reading, Language, and Literature prepares individuals for positions in institutions of higher learning, education renewal centers, state and national education agencies, and K-12 school districts. The program is designed for those individuals who are committed to the enhancement of literacy for all learners; whose career goals emphasize the development and improvement of literacy curriculum and instruction; who desire to prepare themselves for literacy 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 to support continued literacy advancement.

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 TED 8280; TED 9130 is recommended but not required. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Within this program, students select one specific area as their focus (Reading, Language Arts or Literature). The thirty-credit major consists of the core required courses (RLL 8500, RLL 8600, RLL 8700), courses in the focus area, and other courses as determined in consultation with the major advisor. Students also complete twelve credits of research courses, twelve credits in a cognate area, six credits in education seminars, and twenty credits of dissertation research. A maximum of thirty credits of graduate work can be transferred into the program.

Secondary Education Major (M.A.T.) Teaching (M.A.T. Program)

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 at Certification Requirements). Each of the M.A.T. programs consists of graduate level courses (several involving work with children in a school setting) and field experiences (pre-student teaching for one semester and student teaching for one semester).

Information regarding teaching certificate requirements can be found at Teaching Certificates of this bulletin.

Admission to the Master of Arts in Teaching is contingent upon admission to the Graduate School (p. 17). 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 of Michigan Professional Readiness Exam (PRE) and must present verification of participation in group work with children and (not older than 6-months from application date) 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) (<http://www.mttc.nesinc.com>) examination scores (PRE 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. 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 advisor in the Teacher Education Division regarding appropriate teaching majors and minors and the process for a formal transcript evaluation.

Degree Requirements (General M.A.T.)

M.A.T. programs require a minimum of forty credits. Total credit requirements vary based 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 (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. 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:

Code	Title	Credits
EDP 6210	Foundations of Educational Psychology	3
EHP 7600	Philosophy of Education	2-3

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:

Code	Title	Credits
TED 5150	Analysis of Elementary Teaching	3, 5
TED 5650	Pre-Student Teaching Field Experience for Secondary Majors	5
TED 5780	Directed Teaching and Conference	1-12
TED 5790	Directed Teaching and Conference for Special Groups	1-15
BBE 6600	Internship in Bilingual/Bicultural Teaching	2-12

Information on the student teaching phases of the program is presented at Student Teaching of this bulletin.

Secondary Education Major (M.A.T. Program)

Major Requirements

Courses must be completed prior to student teaching

TED 5150	Analysis of Elementary Teaching	3, 5
EDP 5480	Adolescent Psychology	2-3
RLL 6120	Developmental Reading I: Comprehension Preprimary-8	3

Additional Courses

Required for certification

EHP 7600	Philosophy of Education	2-3
BBE 5000	Multicultural Education in Urban America	2
SED 5010	Inclusive Teaching	2
TED 6020	Computer Applications in Teaching I	3

Courses required for the M.A.T. degree following completion of the certification program are courses specific to the concentration area of study (see next tab) and ED 7999.

Secondary Education Major Concentrations (M.A.T. Program)

Two specific methods courses are required for each of the concentrations below and must be selected in consultation with an advisor. Some programs require a third methods course.

Among the general professional core courses (see General Professional Requirement: Fundamental Areas and Core Courses (p. 97)) 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.

Bilingual-bicultural Education

Students in an M.A.T. program in secondary education with a bilingual-bicultural minor and endorsement must complete

BBE 5000	Multicultural Education in Urban America	2
BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	1-3
BBE 6600	Internship in Bilingual/Bicultural Teaching	2-12
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	1-3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
TED 7000	Introductory Master's Seminar	2-3
ED 7999	Terminal Master's Seminar and Essay or Project	3
Select six credits in methods courses in the major field, selected in consultation with the appropriate major advisor		6
Total Credits		32-47

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.

Early Childhood General and Special Education (ZS)

Students seeking an Early Childhood General and Special Education (ZS) endorsement on their teaching certificate may choose the ZS as a major. The plans for the ZS major must be done in consultation with their faculty advisor.

Courses that must be completed prior to student teaching:

EDP 6210	Foundations of Educational Psychology	3
TED 5150	Analysis of Elementary Teaching	3, 5
RLL 6120	Developmental Reading I: Comprehension Preprimary-8	3
ELE 6020	Seminar in Early Childhood	3
ELE 6040	Role of Content Areas in Early Childhood Education	2-8
ELE 6100	Planning and Implementing Preschool Curriculum	3
ELE 6200	Children's Literature for Teachers	3
ELE 6310	Reading Instruction: P-8	3
ELE 6340	Teaching Reading in Early Childhood Education	3
ELE 6390	Mathematics Instruction: P-8	3
ELE 6600	Social Studies Curriculum: P-8	3

Other courses required for the ZS endorsement minor and the M.A.T. degree:

EDP 5450	Child Psychology	2-3
ELE 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	3-4
ELE 6060	Community Contacts: Working with Families in Urban Settings	3
ELE 6080	Preprimary Goals and Practices	3
ELE 6090	Introduction to Infant Mental Health Theory and Practice	3

SED 6040	Introduction to Early Childhood Special Education	3
BBE 5000	Multicultural Education in Urban America	2
SED 5010	Inclusive Teaching	2
EHP 7600	Philosophy of Education	2-3
Total Credits		55-66

English as a Second Language

BBE 5000	Multicultural Education in Urban America	2
BBE 6600	Internship in Bilingual/Bicultural Teaching	2-12
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	1-3
LED 6565	Assessment in Language Teaching	1-3
LED 6580	Culture as the Basis for Language Teaching	2-4
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
TED 7000	Introductory Master's Seminar	2-3
ED 7999	Terminal Master's Seminar and Essay or Project	3
Select six credits in methods courses in the major field, in consultation with the appropriate advisor		6
Total Credits		31-48

English Education

Requirements

EED 5200	Methods of Teaching English: Grades 7-12	3
EED 6120	English Composition in Secondary Schools	3
EED 6210	Language, Literacy, and Learning	3
EED 6310	Young Adult Literature	3
EED 6330	Teaching Literature in Secondary Schools	3
ED 7999	Terminal Master's Seminar and Essay or Project	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
Elective courses in consultation with an advisor		
Total Credits		21

Foreign Language Education

Requirements

TED 7000	Introductory Master's Seminar	2-3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	2-3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
ED 7999	Terminal Master's Seminar and Essay or Project	3

Specialty courses

LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6580	Culture as the Basis for Language Teaching	2-4

Required general professional core courses

EDP 6210	Foundations of Educational Psychology	3
or EDP 5480	Adolescent Psychology	

EHP 7600	Philosophy of Education	2-3
Total Credits		23-28

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

TED 7000	Introductory Master's Seminar	2-3
ED 7999	Terminal Master's Seminar and Essay or Project	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
MAE 5150	Methods and Materials of Instruction: Secondary School Mathematics	3
MAE 6050	Teaching Mathematics in the Middle Grades	3
Select two of the following:		4-6
MAE 6150	Special Topics	
MAE 7150	Advanced Studies in Teaching Discrete Mathematics	
MAE 7200	Advanced Studies in Teaching Statistics and Probability	
MAE 7300	Advanced Studies in Teaching Geometry	

Additional courses are selected in consultation with an advisor

Total Credits		18-21
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Science Education

Requirements

TED 7000	Introductory Master's Seminar	2-3
ED 7999	Terminal Master's Seminar and Essay or Project	3
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
CHM 6740	Laboratory Safety	1-2
or SCE 6010	Safety in the Science Classroom	

Additional methods courses and electives are selected in consultation with an advisor

Total Credits		15-17
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Social Studies Education

Required courses

SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6720	Teaching the Interdisciplinary Knowledge of Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
SSE 7780	Readings in the Social Studies	3
SSE 8740	Graduate Seminar in Social Studies Education	3
ED 7999	Terminal Master's Seminar and Essay or Project	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
EHP 7600	Philosophy of Education	2-3
SED 5010	Inclusive Teaching	2

BBE 5000	Multicultural Education in Urban America	2
TED 6020	Computer Applications in Teaching I	3
TED 7000	Introductory Master's Seminar	2-3
Total Credits		32-34

Career and Technical Education

Required courses

CTE 5410	Teaching Methods for the Career and Technical Education Classroom I	3
CTE 6993	Teaching Methods for the Career and Technical Education Classroom II	3
EDP 5480	Adolescent Psychology	2-3
EHP 7600	Philosophy of Education	2-3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
TED 6020	Computer Applications in Teaching I	3
ED 7999	Terminal Master's Seminar and Essay or Project	3
SED 5010	Inclusive Teaching	2
Select one elective		
Total Credits		21-23

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.

Special Education (Ph.D. and Ed.D)

The Doctor of Education (Ed.D.) and the Doctor of Philosophy (Ph.D.) programs prepare professional educators and researchers for positions in institutions of higher learning, educational research 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 various areas of curriculum and educational research; and who will serve as agents of change, creating and expanding the varied institutions and programs needed for the continuing development of educators. 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 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

The College of Education has specific requirements for admission to doctoral programs (p. 85).

(An admissions moratorium is currently in effect for these programs.)

The Special Education programs promote inclusive education for students with mild to severe disabilities, and see best instructional practices in general education as supporting the growth and development of students with disabilities. Special educators have important roles to play in building a unified system of schooling that supports learning of all students. Leadership is needed to make these goals a reality. It is the purpose of these programs to provide one important avenue of leadership development. The Special Education doctoral programs provide opportunities to develop and strengthen knowledge and skills in research and inquiry, best instructional practices for inclusive teaching, professional development, leadership, strategies for identifying and promoting innovations, and grant development.

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 TED 8280; TED 9130 is recommended but not required. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Teaching and Learning (M.Ed.)

This program follows the general admission and degree requirements for the Master of Education (p. 83). Additional tabs enumerate the specific amendments/variations to generic requirements, as well as program options.

The Master of Education (M.Ed.) in Teaching and Learning is for teachers and other professionals who wish to enhance their content and pedagogical knowledge, as well as research skills in teaching and learning. Program activities engage students in the study of teaching and learning using current theoretical developments in order to:

1. develop curriculum illustrating best practices and
2. research inquiries in areas of their interest.

The theoretical knowledge and research skills acquired in this program are an important aspect of an educator's professional growth and essential to those interested in taking on leadership roles and/or pursuing another advanced degree in the future.

Program applicants may choose to concentrate in one of eight specialty areas:

- Bilingual/Bicultural (BBE), which may lead to a teaching endorsement
- Early Childhood Education (ECE)
- Elementary Education (ELE)
- Foreign Language (LED):
- Mathematics Education (MAE)
- Science Education (SCE)
- Social Studies Education (SSED)
- Special Education (SED), which can lead to a teaching endorsements in one of two areas:
 - Cognitive Impairment
 - Learning Disabilities

Admission Requirements

Applicants must meet requirements for admission to the Graduate School (p. 17) (a minimum undergraduate degree GPA of 2.75 for regular admission and a GPA of 2.50 for qualified admission). In addition, prior

coursework or a teaching endorsement in the field of study is required for admission to the following concentrations:

- Elementary Education
- Foreign Language Education
- Mathematics Education
- Science Education
- Social Studies Education
- Special Education

The Master of Education degree requires a minimum of thirty credits, at least twenty-four of which must be taken at Wayne State University. The program is offered under master's degree plan 'B,' which includes completion of a terminal seminar and essay or project.

The following courses are required of all students in the program (12 credit hours): The remaining credit hours will come from the area of the concentration (18 to 24 credits). The total number of credit hours for the degree will vary from 30 to 36 depending on the area of the concentration.

TED 7000	Introductory Master's Seminar	3
ED 7999	Terminal Master's Seminar and Essay or Project	3
TED 7030	Foundations of Teaching and Learning	3
TED 7060	Inclusive Education, Curriculum and Pedagogy	3
Total Credits		12

Theoretical and Behavioral Foundations

Assistant Dean: Cheryl Somers

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<http://coe.wayne.edu/tbf/>

The Division of Theoretical and Behavioral Foundations includes degree programs in educational evaluation and research, counseling, educational psychology, school and community psychology, counseling psychology, and rehabilitation counseling and community inclusion. 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.

Counselor Education

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 clinical mental health 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 Counseling with concentrations in Clinical Mental health 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 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).

Educational 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

Educational Psychology

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. At the doctoral level, our program is focused on research and university teaching contexts. The Applied Behavior Analysis training emphasized working in clinical settings with people with Autism.

There is one Master of Education (M.Ed.) program in Educational Psychology, geared toward those who want to apply psychology/educational psychology to their current professions (e.g., teaching). Two majors are offered for the Master of Arts (M.A.) 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. 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. The major in Counseling Psychology has an emphasis in individual and marriage and family therapy and offers two years of course work plus one or two semesters of a clinical internship. 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. The Ph.D. in Educational Psychology has a concentration in Learning and Instruction science and is focused on educational psychology theory and research. Additionally, an Applied Behavior Analysis Graduate Certificate is offered for those who already hold a master's degree, or it can be accomplished as part of the M.Ed. in Educational Psychology. Through this training, students become eligible to sit for the Board Certified Behavior Analyst (BCBA) exam, which is part of earning the BCBA credential. All of these programs are described in more detail below.

The prospective student should recognize that a grade point average of 3.0 with no more than one earned grade of 'C' plus is required to continue in all of these programs and to graduate. 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. 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. The Applied Behavior Analysis training also involves intensive training working with children in clinical settings and thus requires successful demonstration of both clinical and academic skills.

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://coe.wayne.edu/tbf/> for the program of interest, and follow those instructions carefully. Applicants are strongly

encouraged to contact the program area secretary to ensure they have received complete and updated application and program information.

Rehabilitation Counseling and Community Inclusion

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.

- Counseling (M.A.) (p. 113)
- Counseling (M.Ed.) (p. 113)
- Counseling (Education Specialist Certificate) (p. 113)
- Counseling (Ed.D.) (p. 113)
- Counseling (Ph.D.) (p. 113)
- Educational Evaluation and Research (M.Ed.) (p. 114)
- Educational Evaluation and Research (Ed.D.) (p. 114)
- Educational Evaluation and Research (Ph.D.) (p. 114)
- Applied Behavior Analysis (Graduate Certificate) (p. 112)
- Counseling Psychology (M.A.) (p. 114)
- Educational Psychology (M.Ed.) (p. 114)
- Educational Psychology (Ph.D.) (p. 115)
- School and Community Psychology (M.A.) (p. 115)
- School Psychology, Advanced Studies in (Graduate Certificate) (p. 112)
- Rehabilitation Counseling and Community Inclusion (M.A.) (p. 115)

Advanced Studies in School Psychology (Graduate Certificate)

Admission Requirements

Admission to this program is only for students in the M.A. program in School & Community Psychology. Admission is contingent upon

admission to the Graduate School (p. 17). 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.

The last fourteen credits of the School and Community Psychology program are the internships, which are the basis for this Graduate Certificate and are required for full completion of this program and for recommendation for state school psychology certification and state psychology limited licensing (LLP). 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 8320 and EDP 8330 for a total of eight credits and during this time period, students will be concurrently enrolled in the M.A. and Graduate Certificate program, and these credits 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 8320	Internship in Clinical Procedures I	5
EDP 8330	Practicum/Field Experience in School Psychology	3
EDP 8360	Internship in School Psychology	6
Total Credits		14

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Applied Behavior Analysis (Graduate Certificate)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). A 2.75 minimum GPA is required for consideration for the program. In addition to the Graduate School application, the following must be mailed to the program: program area application, transcripts, GRE scores, and three letters of recommendation. On the program area application, applicants must specify whether they are seeking the Graduate Certificate in ABA only or they wish to take the ABA sequence as part of the M.Ed. program. If the latter, a university application must also be made to the Graduate School for the M.Ed. in Educational Psychology.

This program is calendar controlled in that all students begin and end together, taking the same courses as a cohort. Required courses are:

EDP 7101	Foundations of Applied Behavior Analysis	4
EDP 7102	Assessment Techniques in Applied Behavior Analysis	4
EDP 7103	Applied Behavior Analysis Treatment Planning	4
EDP 7104	Research Methods in Applied Behavior Analysis	3
EDP 7105	Ethical Practice in Applied Behavior Analysis	3
Total Credits		18

Additional practicum experiences are offered that are not part of the actual degree or certificate requirements. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Counseling (Education Specialist Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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
- 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.

A minimum of thirty credits is required for this certificate. Course requirements for the program are determined in consultation with an advisor. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Counseling (M.A.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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.

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

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. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Counseling (M.Ed.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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.

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.

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. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Counseling Education (Ed.D. and Ph.D.)

Admission Requirements

In addition to meeting the basic admission requirements of the Graduate School (p. 17) and those of the College (p. 85), 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
- 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.

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 course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

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

Counseling Psychology (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). A minimum of fifteen credits in psychology or related field approved by admissions committee and a minimum undergraduate point average of 3.0 are prerequisite to admission. A program application, Graduate Record Examination (GRE), three letters of recommendation, undergraduate/graduate transcripts, and a personal interview with the admissions committee are required. Applications are accepted after September 1 with a rolling deadline starting February 15 through March 15. Applicants are encouraged to apply early and will be interviewed by the Admissions Committee until a class of fifteen students is admitted. Students are admitted once each year and begin the program in the summer semester of the year for which they are admitted. It is strongly suggested that applicants reference the Counseling Psychology (<http://>

coe.wayne.edu/tbf/educational-psychology/counseling-) website to obtain program and scholarship information and a program application. Application for graduate admissions must be made online.

This program is calendar controlled in that all course work must be completed in semester sequences commencing with the Summer term. Students should refer to the program for current plans of work and course requirements (<http://coe.wayne.edu/tbf/educational-psychology/counseling->).

A clinical 500-hour internship/practicum is required for licensure in the State of Michigan and must be conducted in a non-profit setting under the supervision of a licensed psychologist. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Educational Evaluation and Research (Ed.D. and Ph.D.)

Admission Requirements

Applicants to doctoral programs in this area must meet the admission requirements stated under Admission to Graduate Programs (p. 85).

Basic degree requirements for the Ph.D. and Ed.D. programs are stated at Doctor of Education Requirements (p. 82). All courses in the major are selected in consultation with an advisor. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Educational Evaluation and Research (M.Ed.)

Admission Requirements

Students are admitted every semester and must meet the general admission requirements for the Master of Education (p. 83).

A minimum of thirty credits is required for this degree under Plan A, B, or C. 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. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Educational Psychology (M.Ed.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). A minimum undergraduate GPA of 2.75 is required.

This program requires a minimum of thirty credits, including the basic degree requirements for the Master of Education (p. 83). All course work is selected in consultation with an advisor and must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

Educational Psychology (Ph.D.)

Admission Requirements

Applicants should refer to the admission requirements for doctoral degrees (p. 115) in the College of Education. The Educational Psychology Doctor of Philosophy Program has a concentration in Learning and Instruction Sciences. 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 are strongly encouraged to contact the program secretary to ensure they have received complete and updated application and program information.

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 may also select a number of courses in the psychology department.

Research course requirements include a minimum of fifteen credits in research and evaluation (EER). The remaining plan of work is arranged with an advisor depending on master's level training and future goals, and includes 30 dissertation credits, which is a requirement set by the university.

All doctoral students will complete a comprehensive examination at the end of coursework and a final report and defense after completion of the dissertation. All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. All Plans of Work are developed in consultation with the student's assigned advisor.

Rehabilitation Counseling and Community Inclusion (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

The Master of Arts degree in this discipline requires the completion of a minimum fifty-five credits. Course requirements include:

RCI 7120	Assessment for Counselors and Rehabilitation	3
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RCI 7150	Rehabilitation Counseling Professional Roles	3
RCI 7410	Foundations of Rehabilitation Counseling	3
RCI 7420	Medical Aspects of Disability	3
RCI 7430	Counseling Practicum ¹	4
RCI 7450	Employment for Persons with Disabilities	3
RCI 7460	Counseling Internship ²	1-6
RCI 7470	Family and Community Support for Inclusion	3
RCI 7480	Psychosocial Aspects of Disability	3
RCI 7510	Special Topics in Rehabilitation Counseling	1-3
CED 6080	Theories of Counseling	3
CED 7000	Introduction to Group Work	2
CED 7010	Group Counseling Participation	2
CED 7040	Techniques of Counseling	4
CED 7080	Career Development and Counseling	3
CED 7730	Cultural and Diversity Issues in Mental Health Treatment Research	3
EDP 7490	Psychological Evaluation I	1-3
EER 7640	Fundamentals of Quantitative Research	3
ED 7999	Terminal Master's Seminar and Essay or Project ³	3

¹ Minimum of 100 clock hours required.

² Minimum of 600 clock hours required.

³ Terminal master's project with an emphasis on rehabilitation counseling.

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees. All Plans of Work are developed in consultation with the student's assigned advisor.

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.

School and Community Psychology (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). A minimum of fifteen credits in psychology or educational 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.

Course work requirements include:

EDP 7220	Psychotherapy with Children and Adolescents	4
EDP 7260	School-Based Consultation and Intervention	3
EDP 7300	Ethics, Standards, and the Practice of Psychology	4

EDP 7400	Foundations of Social Psychology	3
EDP 7410	Human Developmental Psychology	3-4
EDP 7420	Introduction to Behavioral Psychology	4
EDP 7430	Applications I: Behavioral Psychology and Social Learning	4
EDP 7561	Assessment of Cognitive Functioning	4
EDP 7562	Assessment of Personality and Social-emotional Functioning	4
EDP 7563	Assessment of Academic Achievement	3
EDP 7564	Assessment and Intervention for Academic Learning Difficulties	4
EDP 7610	Child and Adolescent Psychopathology	3
EDP 8320	Internship in Clinical Procedures I	1-6
EDP 8330	Practicum/Field Experience in School Psychology	1-8
EDP 8360	Internship in School Psychology	1-8
EER 7640	Fundamentals of Quantitative Research	3
ED 7999	Terminal Master's Seminar and Essay or Project	3
Total Credits		52-72

All course work must be completed in accordance with the academic procedures of the College of Education (p. 82) and the Graduate School's (p. 34) regulations governing graduate scholarship and degrees.

COLLEGE OF ENGINEERING

Dean: Farshad Fotouhi

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.

The College of Engineering offers the Master of Science and Doctor of Philosophy degrees in biomedical, chemical, civil, computer science, 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.

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 combines expertise from the Departments of Mechanical, Chemical, and Electrical and Computer Engineering.

Facilities of the College

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 artifice 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, nanotechnology, 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 nano-fabrication (n-Fab) 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 nano-fabrication 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) (415 North Charles Street, Baltimore, MD 21201, 410-347-7700). Electrical/ Electronic Engineering Technology and Mechanical Engineering Technology programs are accredited by the:

Technology Accreditation Commission (TAC) of ABET
1415 North Charles Street
Baltimore, MD 21201
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 the College of Engineering

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section of this bulletin. 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.

Academic Scholarship

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 (p. 12) governing graduate scholarship and degrees. University rules require an overall g.p.a. of 3.0 or higher for graduation, in all graduate work completed at Wayne State.

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.

Withdrawal from Courses

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. 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.

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) (p. 17), the University of Windsor – WSU, Exchange Program Agreement (p. 17)), and Dual Enrollment with the University of Michigan (p. 17). 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.

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 Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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 College of Engineering's minimum requirement for the master's degree is thirty-two credits. Some programs 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. 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.

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.

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.

The Doctor of Philosophy (Ph.D.) degree is offered by the College of Engineering in the following major areas: biomedical engineering, chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, industrial engineering, materials science and engineering, and mechanical engineering.

Admission Requirements

Admission to the doctoral programs of the College is contingent upon admission to the Graduate School (p. 17). For admission into an engineering doctoral 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 doctoral program should have first achieved an M.S. degree. Students completing their M.S. degree programs who wish to enter the doctoral 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 doctoral 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 doctoral 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 doctoral requirements, he/she may transfer appropriate credits toward the Master of Science degree program in the discipline in which credits were accrued.

Biomedical Engineering

Office: 818 W. Hancock; 313-577-1861

Chairperson: John M. Cavanaugh

Associate Chairpersons: Mahendra Kavdia (COE), E. Mark Haacke (SOM)

<http://engineering.wayne.edu/bme/>

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.

- Injury Biomechanics (Bridge Graduate Certificate) (p. 122)
- Biomedical Engineering (M.S.) (p. 120)
- Biomedical Engineering (Ph.D.) (p. 121)
- Biomedical Imaging (dual-title program) (p. 122)

Biomedical Engineering (M.S.)

Program specialization in this master's degree may be under-taken in these areas:

- injury biomechanics
- bioinstrumentation
- biomedical imaging
- tissue engineering and biomaterials
- systems biology and computational biology
- medicine career

These specializations are available to both part-time and full-time students, in either research or non-research degree programs.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, the minimum requirements for admission into the M.S. Program in Biomedical Engineering are:

1. Official transcripts from an accredited institution showing completion of an engineering baccalaureate degree. Students with a baccalaureate degree from a non-engineering discipline will be considered for admission to the program if they have the prerequisite coursework in Calculus (1, 2 and Differential Equations) and Physics (1 and 2). Students without subsequent mathematical application course work (e.g. life science) must have passed these courses with a grade of 'B' or better. 2. A Grade Point Average (g.p.a.) of 3.0 or higher on a 4.0 scale will be considered for Regular Admission and g.p.a. between 2.8 and 3.0 will be considered for Qualified Admission.
2. A Grade Point Average (g.p.a.) of 3.0 or higher on a 4.0 scale will be considered for Regular Admission and g.p.a. between 2.8 and 3.0 will be considered for Qualified Admission.
3. Submission of a one-page statement of purpose describing their interest in graduate degree in biomedical engineering.
4. Applicants must also submit Graduate Record Examination (GRE) scores if applying for financial support.

This Master of Science degree in Biomedical Engineering is offered under the following options:

Plan A: minimum of thirty-two credits in course work including an eight credit thesis.

Plan C: minimum of thirty-four credits in course work.

For either plan, students must complete the following Core Requirements:

BME 5010	Quantitative Physiology	4
BME 5020	Computer and Mathematical Applications in Biomedical Engineering	4
BME 8070	Seminar in Biomedical Engineering	1

Students with non-engineering backgrounds also need to take BME 5040.

Additional courses will be chosen from the curriculum outlined for each specialization (p. 120). 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 BME 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, BME 7990, and BME 7996) may be applied towards the degree. Thesis credits are earned through satisfactory completion of BME 8999. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). Courses to be applied to the degree requirements must be completed with a grade of 'B' minus or higher.

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.

Biomedical Engineering (Ph.D.)

Program specialization in this Ph.D. degree may be under-taken in these areas:

- injury biomechanics
- bioinstrumentation
- biomedical imaging
- tissue engineering and biomaterials
- systems biology and computational biology
- medicine career

These specializations are available to both part-time and full-time students, in either research or non-research degree programs.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, the minimum requirements for admission into the Doctoral Program in Biomedical Engineering are:

1. A student seeking admission to the doctoral program must have a Bachelor's or Master's degree in Biomedical Engineering, or other closely related field from an accredited institution.
2. A g.p.a. of at least 3.5/4.0 in the applicant's Bachelor's degree or a g.p.a. of at least 3.3/4.0 in the applicant's Master's degree is required.
3. All applicants must submit Graduate Record Examination (GRE) scores.
4. Three letters of recommendation.

5. A statement of research interests and goals.

Completion of a minimum of ninety credits beyond the baccalaureate degree is required for the Ph.D. program. These credits are distributed as follows:

Core Courses

BME 5010	Quantitative Physiology	4
BME 5020	Computer and Mathematical Applications in Biomedical Engineering	4
BME 7010	Functional Anatomy	4
BME 8070	Seminar in Biomedical Engineering	1
BME 8080	Doctoral Seminar in Biomedical Engineering	1
BIO 5040	Biometry	4
	or FPH 7015 Biostatistics I	
BME 5040	Fundamentals of Engineering Analysis (for students with non-engineering backgrounds)	2

Dissertation

Dissertation	30
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General Courses ¹	40
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Total Credits	90
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¹ Students must complete these 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.

Students must complete these 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. Courses to be applied to the degree requirements must be completed with a grade of 'B' minus or higher.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

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 must take the written qualifying examination after completing sixteen credits in course work towards the Ph.D. All Ph.D. students are required to attempt 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 the Winter Semester.

- 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, BME 9992, BME 9993, and BME 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 (BME 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. A minimum of one first author peer reviewed journal publication is required before defending the Doctoral Dissertation.

For additional information, students should consult the Graduate School's regulations (p. 35) governing doctoral study.

Biomedical Imaging (dual-title program)

The objective of this program is to prepare students who are currently enrolled in any biomedical related Ph.D. program or in an M.D./ Ph.D. program to become strong imaging researchers. With an excellent imaging background, they have the potential to obtain positions in either industry or academia and tackle problems in engineering and science with new insights and new equipment.

Admission Requirements

Biomedical Engineering Ph.D. students by the end of the first year of their program may submit a written request to the Biomedical Engineering Graduate Program Director to add the Biomedical Imaging dual-title program to their plan of study.

Core Courses (16-18 credits): Students should select 16 to 18 credits (5 or 6 courses) from the course list (please see the program director for an updated course list). Note that these courses can be counted as part of the Ph.D. requirements.

Seminar Courses (0-1 credits): Doctoral seminar series related to imaging can be taken by the student and counted toward 1 credit for the dual title program.

Special Laboratory Rotation (2-3 credits): The student will be expected to gain at least one semester's experience in an imaging laboratory, different from their advisor's laboratory, to broaden their imaging experience.

Injury Biomechanics (Bridge Graduate Certificate)

This bridge graduate certificate program aims to provide specialized skills and training engineers will need to address impact biomechanics

and motor vehicle trauma in the automotive and defense industries as well as blast-induced injury biomechanics and counter measures. 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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

Students must complete sixteen credits in BME courses related to injury biomechanics, including three required courses.

Required Courses

BME 5010	Quantitative Physiology	4
BME 7100	Mathematical Modeling in Impact Biomechanics	4
BME 7160	Impact Biomechanics	4

Elective

Select one of the following:		4
BME 6480	Biomedical Instrumentation	
BME 7120	Applied Finite Element Methods in Biomechanical Analysis	
BME 7150	Biomechanics of Blast-Related Injuries	
BME 7170	Experimental Methods in Impact Biomechanics	

Total Credits 16

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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Chemical Engineering and Materials Science

Office: 1100 W. Engineering Building; 313-577-3800

Chairperson: Guangzhao Mao

<http://engineering.wayne.edu/che/>

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; 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, control, and manufacturing based on sustainability principles, 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, mechanical, 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.

- Polymer Engineering (Graduate Certificate) (p. 124)
- Chemical Engineering (M.S.) (p. 123)
- Materials Science and Engineering (M.S.) (p. 124)
- Chemical Engineering (Ph.D.) (p. 123)
- Materials Science and Engineering (Ph.D.) (p. 124)

Chemical Engineering (M.S.)

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 Requirements

Regular Admission

Admission to this program is contingent upon admission to the Graduate School (p. 17). Regular admission requires a 3.0 grade point average or the equivalent as determined by the Department Graduate Officer.

Combined B.S./M.S. for Students with a B.S. in Chemistry

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.

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. For additional information regarding specific course requirements, contact the departmental advisor: 313-577-3716.

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.

Both options require the following core courses:

CHE 7100	Advanced Engineering Mathematics	3
CHE 7200	Advanced Transport Phenomena	4
CHE 7300	Advanced Thermodynamics	3
CHE 7400	Advanced Kinetics and Reactor Design	4

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Chemical Engineering (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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, CHE 9992, CHE 9993, and CHE 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	Advanced Engineering Mathematics	3
CHE 7200	Advanced Transport Phenomena	4
CHE 7300	Advanced Thermodynamics	3
CHE 7400	Advanced Kinetics and Reactor Design	4

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 the Graduate School's regulations (p. 35) governing doctoral study.

Materials Science and Engineering (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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.

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 5650	Surface Science	3
MSE 7300	Advanced Thermodynamics	3
MSE 7400	Mechanical Behavior of Materials	3
PHY 6450	Introduction to Material and Device Characterizations	4

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Materials Science and Engineering (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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, MSE 9992, MSE 9993, and MSE 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 5650	Surface Science	3
MSE 7100	Advanced Engineering Mathematics	3
MSE 7300	Advanced Thermodynamics	3
MSE 7400	Mechanical Behavior of Materials	3
PHY 6450	Introduction to Material and Device Characterizations	4

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 the Graduate School's regulations (p. 35) governing doctoral study.

Polymer Engineering (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Applicants must have a Bachelor of Science degree in engineering, chemistry, or physics.

Students must complete twelve credits:

CHE 5350	Polymer Science	3
CHE 5360	Polymer Processing	3
Select six credits in electives		6
Total Credits		12

The minimum grade point average must be 3.0. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). For additional information and advice about electives, contact Dr. Z. Cao (zcaoc@che.eng.wayne.edu).

Civil and Environmental Engineering

Office: 2100 E. Engineering Building; 313-577-3789
Interim Chairperson: Mumtaz Usman
<http://www.cee.eng.wayne.edu>

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. 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 (M.S. only), environmental engineering, transportation, and construction management.

- Civil Engineering (M.S.) (p. 124)
- Civil Engineering (Ph.D.) (p. 125)

Civil Engineering (M.S.)

The civil engineering graduate program at Wayne State University 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. Full-time students have the opportunity to participate in

research and experimental work with the faculty, while pursuing their graduate courses.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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 (CE 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, and construction management.

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 (p. 12) and the College of Engineering (p. 118).

Civil Engineering (Ph.D.)

The Department offers doctoral programs in all the major areas listed as core specializations under the Master of Science degree: environmental engineering, geotechnical engineering, structures, transportation, and construction management.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 a M.S. degree and have earned a grade point average in courses taken for graduate credit which is not less than 3.5.

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 CE 9991, CE 9992, CE 9993, and CE 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 the Graduate School's regulations (p. 35) governing doctoral study.

Computer Science

Office: 5057 Woodward, Suite 3010; 313-577-2477

Chairperson: Loren Schwiebert

<http://engineering.wayne.edu/cs>

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.

The Department of Computer Science operates eight instructional and multiple research laboratories comprising about 300 state-of-the-art workstations and servers.

- Computer Science (M.S.) (p. 125)
- Computer Science (Ph.D.) (p. 126)

Computer Science (M.S.)

The Department of Computer Science awards the degree of Master of Science with a major in computer science under two plans. 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 Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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.

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, 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 (p. 12) and the College of Engineering (p. 118).

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

Systems and Networking: Networking & Distributed Systems, Computer Security, Parallel & Cloud Computing, Real-Time Systems, Service Computing.

Data Science and Analytics: Databases, Machine Learning, Computer Graphics & Visualization

Artificial Intelligence

Pattern Recognition and Computer Vision

Software Engineering

Bioinformatics and Health Informatics

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. The thesis must conform to the Graduate School's specifications on format and presentation (p. 34). 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

CSC 6500	Theory of Languages and Automata	3
CSC 6580	Design and Analysis of Algorithms	3
CSC 8990	Graduate Seminar	1
Select at least one course that must be taken at or above the 7000 level ¹		3
CSC 8999	Master's Thesis Research and Direction	8

No more than three credits of CSC 7990, Directed Study, can be used to satisfy the degree requirements.

A student must have prior written consent of their advisor and the Graduate Committee Chair before registering for any course outside of the department.

At least twenty-five credits must be taken in residence.

Course Requirements and Restrictions for Plan C

CSC 6500	Theory of Languages and Automata	3
CSC 6580	Design and Analysis of Algorithms	3
CSC 8990	Graduate Seminar	1
Select at least one course must be taken at or above the 700 level ¹		3

¹ CSC 7990 does not satisfy the 7000 level requirement.

All credits must be taken from CSC designated courses.

At least twenty-five credits must be taken in residence.

Computer Science (Ph.D.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 pre-requisite 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.

The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

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 (not 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 (<http://wayne.edu/gradschool>).
- 7. Dissertation:** The final stage is devoted primarily to the research and preparation of the dissertation. The thirty credit dissertation registration requirement is fulfilled by registering for the courses CSC 9991, CSC 9992, CSC 9993, and CSC 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The dissertation research is presented and defended before the Dissertation Committee in a public lecture presentation.

Bioinformatics and Computational Biology (Ph.D.)

The concentration in bioinformatics and computational biology is intended for doctoral students in 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	3
CSC 7301	Bioinformatics I: Programming Lab	1
CSC 7410	Bioinformatics II	4
MGG 7010	Molecular Biology and Genetics	4
Total Credits		12

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 7030/MGG 7030, Functional Genomics and Systems Biology.

Note: students must complete MGG 7010 before enrolling in the Bioinformatics CSC courses and CSC 7300 and CSC 7301 must be completed before CSC 7410.

Electrical and Computer Engineering

Office: 3100 W. Engineering Building; 313-577-3920
Chairperson: Mohammed Ismail Elnaggar
<http://engineering.wayne.edu/ece/>

In the field of electrical and computer engineering, basic physical and mathematical principles are utilized to develop new devices, technologies, and techniques of constantly broadening application. Examples include:

- the development of smaller 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.

- Computer Engineering (M.S.) (p. 128)
- Electrical Engineering (M.S.) (p. 128)
- Computer Engineering (Ph.D.) (p. 128)
- Electrical Engineering (Ph.D.) (p. 129)

Computer Engineering (M.S.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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.

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.

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: general, computer architecture and digital design, parallel and distributed systems, machine intelligence and applications. All course work must be completed in accordance

with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Computer Engineering (Ph.D.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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.

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, ECE 9992, ECE 9993, and ECE 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.) All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). For additional information, students should consult the Graduate School's regulations (p. 35) governing doctoral study.

Electrical Engineering (M.S.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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.

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.

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: biomedical systems, communications and circuits, control systems, solid state devices, smart sensors, micro- and nano-technology, power systems, optical engineering.

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). For

detailed requirements in the various core areas, students should consult with their department advisors.

Interdisciplinary Physics-ECE AGRADE Program (Accelerated Graduate Enrollment)

Outstanding seniors in Physics (both Applied Physics option and Fundamental Physics option), who have completed at least 90 credits and have an overall GPA of at least 3.5, and major physics classes GPA at least 3.6, can apply to enter the cross-college AGRADE program between the Physics undergraduate program (College of Liberal Arts and Sciences) and Electrical Engineering (EE) Master's programs (College of Engineering). The AGRADE program allows students to apply up to 12 credits of selected graduate courses, taken as an undergraduate, towards a Master's degree in Electrical Engineering. The Physics courses that can be counted towards MS-EE degree include:

PHY 5340 & PHY 5341	Optics and Optics Laboratory	5
PHY 5620 & PHY 5621	Electronics and Electrical Measurements and Electronics and Electrical Measurements Laboratory	5
PHY 5100	Methods of Theoretical Physics I	3

This enables students to complete an undergraduate degree in Physics and a graduate degree in Electrical Engineering in just 5 years of full-time study. For more details, please contact the undergraduate Physics advisor in the Department of Physics and Astronomy, or the graduate advisor in the Department of Electrical and Computer Engineering.

Electrical Engineering (Ph.D.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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 GRE scores, publications and/or inventions.

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, ECE 9992, ECE 9993, and ECE 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.) All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). For additional information, students should consult the Graduate School's regulations (p. 35) governing doctoral study.

Engineering Technology

Office: 4855 Fourth Street; 313-577-0800
Chairperson: Ece Yaprak

<http://engineering.wayne.edu/et/>

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.

- Engineering Technology (M.S.) (p. 129)

Engineering Technology (M.S.)

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 (p. 17). Additionally, all applicants must:

1. Hold a bachelor's degree in engineering technology or a related discipline from a college or university of recognized standing, or the equivalent;
2. Have maintained at least a 'B' average (3.0 g.p.a.) in undergraduate coursework;
3. 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);
4. 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;
5. 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 2.9 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.
6. 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.

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 (ET 7999).

PLAN C: A minimum of thirty-two credits of graduate level course work (numbered 5000 and above).

For either plan, students must complete the core requirements: ET 7430, ET 7450, and ET 7850. A minimum grade of 'B' is required in core courses, and the grade of 'F' grade is not acceptable in any course. In addition to fulfilling the general scholarship requirements of the Division, all course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Master's Project: ET 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, modeling and simulation, 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 ET 7999. Requests to elect additional credits in ET 7999 beyond those originally allowed by the Master's Project Advisory Committee must also be approved by the Committee.

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.

Industrial and Systems Engineering

Office: 2143 Manufacturing Engineering Building 4815 Fourth St.; 313-577-3821

Chairperson: Leslie Monplaisir

<http://www.engineering.wayne.edu/ise/index.php>

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.

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 BE 2100, or equivalent courses. If the student fails to show competency, he or she may be required to complete a pre-requisite course in probability and statistics.

- Systems Engineering (Bridge Graduate Certificate) (p. 132)
- Industrial Engineering (M.S.) (p. 131)
- Manufacturing Engineering (M.S.) (p. 132)
- Engineering Management (M.S.) (p. 131)
- Industrial Engineering (Ph.D.) (p. 131)

Engineering Management (M.S.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and is limited to management selected individuals from partner organizations. For more information on admission or becoming a partner organization, please contact the EMMP program chair.

On-campus Program

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.

On-site Program (Automotive Supplier)

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

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Industrial Engineering (M.S.)

The master of science degree program in Industrial Engineering is built on a core designed to provide breadth of experience in systems modeling, analysis, and applications common in industrial engineering and operations analysis.

Admission Requirements

Admission to the master's program is contingent upon admission to the Graduate School (p. 17). 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. GRE Exam is not required for applicants. However, a high GRE score will be considered as an incentive for the evaluation process. Additionally, applicants with an undergraduate degree in mathematics, physics, computer science, or another discipline with a strong analytical base may be considered for admission.

The Master of Science in Industrial Engineering is offered under the following options:

Plan A: Thirty-two credits including up to eight thesis credits.

Plan C: Thirty-two credits of course work.

Both options require a common core of eight credits. 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 (twelve core credits are required for the general option). A minimum twenty credits of specialization are required and up to eight credits may be earned in courses outside the Industrial and Systems Engineering Department, but only with prior approval of the graduate advisor. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Thesis Option: If a thesis option (Plan A) is selected, up to eight credits of Master's Thesis Research and Direction (IE 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.

Industrial Engineering (Ph.D.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

Global Executive Track Ph.D. Program

This is a unique track/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 graduate 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 professionals are admitted for the Winter term (no admissions in Summer or Fall terms). Please visit the Global Executive Track Ph.D. (<http://engineering.wayne.edu/ise/programs/phd-get.php>) website for more information.

Industrial Engineering (Ph.D. Program)

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 IE 9991, IE 9992, IE 9993, and IE 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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). Students should consult the Graduate School's regulations (p. 35) governing doctoral study.

Manufacturing Engineering (M.S.)

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.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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. GRE Exam is not required for applicants. However, a high GRE score will be considered as an incentive for the evaluation process. Additionally, applicants with an undergraduate degree in mathematics, physics, computer science, or another discipline with a strong analytical base may be considered for admission.

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.

The Master of Science in Manufacturing Engineering is offered under the following options:

Plan A: Thirty-two credits including up to eight thesis credits.

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. 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 and Systems Engineering Department, but only with prior approval of the graduate advisor. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Thesis Option: If a thesis option (Plan A) is selected, up to eight credits of Master's Thesis Research and Direction (IE 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.

Systems Engineering (Bridge Graduate Certificate)

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 Requirements

Applicants must meet the requirements for admission to the Graduate School (p. 17), and either the M.S. program in Industrial Engineering (p. 130) or Engineering Management (p. 130). They must hold a baccalaureate degree in engineering from an institution accredited by the Accreditation Board for Engineering 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.

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.

Graduation Requirements: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). Students may enroll on a full-time

or part-time basis but must complete requirements within three years of admission.

Mechanical Engineering

Office: 2100 W. Engineering Building; 313-577-3843; Fax: 313-577-8789

Chairperson: Nabil G. Chalhoub

Director ME Graduate Studies: Raouf A. Ibrahim

<http://engineering.wayne.edu/me/>

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, 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.

- Mechanical Engineering (M.S.) (p. 133)
- Mechanical Engineering (Ph.D.) (p. 133)

Mechanical Engineering (M.S.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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.

Students can choose up to three semesters of internship with the permission of both the ME Graduate Advisor and the Office of International Students and Scholars (OISS). ME 6991 credits must be taken in addition to the minimum 32 credits required for the MSME under either plan A or plan C.

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 in addition to their MS thesis and three courses on the 7000-level courses for Plan C students. Directed study and directed research courses (ME 7990 and ME 7996) cannot be counted toward satisfying the 7000-level course requirement. A maximum of four credits in directed study or directed research (ME 5990, ME 7990 and ME 7996) can be applied towards the degree. Every master's degree student must select at least four courses from one of the following thrust areas: Noise and Vibration Control, Advanced Materials and Manufacturing, Advanced Propulsion & Energy Systems. In addition, a minimum of four credits in a math intensive course is required. The math intensive course may be taken from the following suggested list:

ME 5400	Dynamics II	4
ME 5410	Vibrations II	4
ME 5440	Industrial Noise Control	4
ME 5460	Fundamentals in Acoustics and Noise Control	4
ME 6550	Modeling and Control of Dynamic Systems	4
ME 5100	Quantitative Physiology	4
ME 5160	Musculoskeletal Biomechanics	4
ME 5620	Fracture Mechanics in Engineering Design	4
ME 5700	Fundamentals of Mechanics	4
ME 5720	Mechanics of Composite Materials	4
ME 5300	Intermediate Fluid Mechanics	4
ME 5800	Combustion Engines	4
MAT 5070	Elementary Analysis	4
MAT 5220	Partial Differential Equations	4
MAT 5230	Complex Variables and Applications	4
MAT 5410	Applied Linear Algebra	4

Thesis credit requirements are met by satisfactory completion of ME 8999. The overall GPA for completing MSME Degree is B or better with no more than two courses with grades of C. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Mechanical Engineering (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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 ME 9991, ME 9992, ME 9993, and ME 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 (p. 12) and the College of Engineering (p. 118).

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:
 - a. Controls
 - b. Dynamics
 - c. Vibrations
 - d. Fluid Mechanics
 - e. Solid Mechanics
 - f. Thermodynamics
 - g. 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 ME 9991.
3. **An approved Plan of Work** should be filed with the Office for Graduate Studies.
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.

For additional information, students should consult the Graduate School's regulations (p. 35) governing doctoral study.

Programs Offered by the College of Engineering

Alternative Energy Technology Programs

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.

Electric-drive Vehicle Engineering Programs

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.

Sustainable Engineering Program

Students 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.

- Alternative Energy Technology (Graduate Certificate) (p. 134)
- Alternative Energy Technology (M.S.) (p. 134)
- Electric-drive Vehicle Engineering (Graduate Certificate) (p. 135)
- Electric-drive Vehicle Engineering (M.S.) (p. 135)
- Sustainable Engineering (Graduate Certificate) (p. 135)

Alternative Energy Technology (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Alternative Energy Technology (M.S.)

Admission Requirements

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 (p. 17). 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.

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 (p. 12) and the College of Engineering (p. 118).

Electric-drive Vehicle Engineering (Graduate Certificate)

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 freestanding program or concurrently with a master's degree program.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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 Studied. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118). 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.

Electric-drive Vehicle Engineering (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) for requirements. 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.

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), 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 (p. 12) and the College of Engineering (p. 118).

Sustainable Engineering (Graduate Certificate)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

Students must complete fifteen credits of sustainable engineering courses. 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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Engineering (p. 118).

Required Courses

STE/CHE 6100	Introduction to Sustainable Engineering	3
CE 6270	Sustainability Assessment and Management	3

Elective Courses

Select nine credits of the following:		9
CE 5995	Special Topics in Civil Engineering I	
CE 6130	Open Channel Hydraulics	
CE 6150	Hydrologic Analysis and Design	
CE 7995	Special Topics in Civil Engineering II	
CHE 5110	Fundamental Fuel Cell Systems	
CHE 5700	Process and Materials Safety for Alternative Energy Technology	
CHE 6570	Safety in the Chemical Process Industry	
CHE 6610	Risk Assessment	
CHE 6810	Chemical Engineering Research Project	
IE 6310	Lean Operations and Manufacturing	
IE 6405/ EVE 5600/AET 5600	Integrated Product Development	
IE 7325	Supply Chain Management	
ME 5120	Fundamentals of Alternative Energy Technology	
ME 5330	Advanced Thermal Fluid System Design	
ME 5820	Thermal Environmental Engineering	

Total Credits		15
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COLLEGE OF FINE, PERFORMING AND COMMUNICATION ARTS

Dean: Matthew Seeger

The College of Fine, Performing and Communication Arts at Wayne State University provides the highest quality education for practitioners, scholars and consumers in art, art history, communication, dance, music and theatre. This education leads to careers, uses for the arts in other disciplines, enhanced critical abilities, the enrichment of everyday life and the building of new generations of artists, professionals and scholars. Programs of study focus on the integration of theory and practice through the creation, discovery, preservation and transmission of knowledge in fine, performing and communication arts.

The College serves the University and the larger community by creating partnerships that emphasize its own rich, diverse curriculum, interdisciplinary studies, reciprocal professional interaction and outreach activities appropriate to each area of work. Special emphasis is placed on forging alliances with local, state and national constituencies such that the College is both a leader and a resource providing expertise, information and guidance.

Within an appropriate and attractive academic environment the College promotes an atmosphere conducive to intellectual and artistic growth, risk-taking and personal and professional development at all levels in both individual and collaborative endeavors. This environment also assists the College in its role as a national center for creative, research and teaching excellence.

As the cultural gateway of the University, the College provides public events and curricular offerings that nurture creative development, enrich aesthetic values and sensitivity, heighten awareness of the arts experience and reflect the disciplinary diversity of its areas of study. Cultural, racial, ethnic and gender diversity is an important commitment in public events and educational efforts.

Ultimately, the mission of the College is the integration of theory and practice through the creation, discovery, preservation and transmission of knowledge in the fine, performing and communication arts.

Campus Resources: Traditional courses of study are augmented by a variety of performance and presentation resources considered integral to many of the creative programs. Included in these are the Hilberry Repertory Theatre, the Symphonic Band and University Orchestra, plus exhibitions in the Elaine L. Jacob Galler, 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 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. The Public Relations program offered by the Department of Communication is accredited by the Public Relations Society of America.

Academic Regulations for the College of Fine, Performing, and Communication Arts

For complete information regarding the academic rules and regulations of the University, students should consult the Graduate School (p. 12). The following additions and amendments pertain to the College of Fine, Performing and Communication Arts.

Admission

Admission to these program in the College of Fine, Performing and Communication Arts is contingent upon admission to the Graduate School (p. 17).

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.

Graduate Degree Requirements

The Graduate School sets the general requirements for graduate degrees. 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 online through Academica 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 sent via email 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 (Ph.D.)

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 or 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.

Art and Art History

Office: 150 Art Building, 450 Reuther Mall; 313-577-2980

Chairperson: John Richardson
<http://www.art.wayne.edu>

- Art (M.A.) (p. 138)
- Art (M.F.A.) (p. 138)
- Art History (M.A.) (p. 138)

Art (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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: portfolio, personal interview, academic record, reference letters, and statement of intent.

A minimum of thirty-three credits in art, including at least eighteen credits in the studio major, six credits in electives, three credits in art history, three credits in the Master of Arts Seminar in art, and three credits in Master's Essay. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

This program is offered under the following option:

Plan B: Thirty-three 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 faculty 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.

Art (M.F.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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. Final admission is determined by the Department based on the following ranked criteria: portfolio, personal interview, academic record, reference letters, and statement of intent.

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.

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). All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

Candidacy: After twelve credits have been completed, a Plan of Work must be signed by the faculty advisor and submitted to the Department Graduate Officer. An applicant becomes a degree candidate only upon recommendation by the graduate review committee.

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 images 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.

Art History (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). The applicant must have an undergraduate or equivalent degree in art history, a minimum 'B' average in undergraduate art history, and three semester of college-level work in one approved foreign language, appropriate to scholarly study in this field, with a 'B' (3.0) average or better.

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 specialties of art history, but must take at least one course in four out of the five core areas: African, Classical, Medieval, Renaissance/Baroque, and Modern.

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. All course work must be completed in accordance with the regulations of the Graduate School and the College of Fine, Performing, and Communication Arts governing graduate scholarship and degrees; see the sections beginning under Academic Regulations (p. 12) and Academic Regulations for the College of Fine, Performing, and Communication Arts (p. 136), respectively.

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 faculty 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.

Communication

Office: 585 Manoogian Hall; 313-577-2943
Chairperson: Lillian (Lee) C. Black Wilkins
<http://comm.wayne.edu>

The Department of Communication, in the College of Fine, Performing, and Communication Arts, offers graduate study leading to a doctoral degree, master's degree, and graduate certificate. The Department includes about thirty full-time faculty members with strong backgrounds in scholarly and professional approaches to the study and practice of communication. The Department has about 650 undergraduate majors and 150 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: the Midtown Studio (developed in partnership with Detroit Public Television, Channel 56) located on the main floor of 5057 Woodward and the Old Main studio located in the Old Main building, at the intersection of Warren and Cass Avenues. Most graduate courses are offered in the evening in Manoogian Hall.

Departmental 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 individuals, 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, rhetorical, 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 methodological approaches of the faculty are diverse. Faculty members and graduate students have written extensively on computer-mediated communication, critical and cultural studies, dispute resolution, health and risk communication, interpersonal communication, journalism studies, media effects, media studies, organizational communication, public relations, and rhetorical theory and criticism. Faculty members also have diverse professional backgrounds and experiences and have won numerous state, regional, national, and international creative/professional awards. The graduate program is deeply committed to research and scholarship on the interrelations of theory, practice, research, experience, strategy, and ethics.

- Communication (Ph.D.) (p. 142)
- Communication (M.A.) (p. 139)
- Dispute Resolution (M.A.D.R.) (p. 144)
- Dispute Resolution (M.A./J.D. Joint Degree) (p. 143)
- Dispute Resolution (Graduate Certificate) (p. 143)
- Communication and New Media (Graduate Certificate) (p. 143)
- Health Communication (Graduate Certificate) (p. 144)

Communication (M.A.)

The Department offers a master's degree in Communication with concentrations in the following areas:

- Communication Studies
- Journalism
- Media Arts
- Media Studies
- Public Relations & Organizational Communication

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 for the upper-division (the last sixty semester credits) of coursework and a minimum of fifteen semester credits in communication. Applicants with a grade point average below 3.2 for the last sixty semester credits of coursework may submit Graduate Record Examination (GRE) scores as additional evidence of academic ability. In some instances students not meeting the grade point average requirement may be admitted as a post-baccalaureate student until such time as sufficient background for graduate study is demonstrated. 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).

Applicants should complete the online Application for Graduate Admission and submit 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 students are also required to submit

scores from Test of English as a Foreign Language (TOEFL) (minimum 100 on Internet-based Test required) or equivalent tests.

M.A. applicants are admitted for the fall and the winter semesters. Deadline for application materials for fall semester admission is June 1; and for the winter semester it is November 1.

The Master of Arts degree is offered by the Department of Communication. Please see the concentrations for specific degree requirements.

Students must plan a program of study as early as possible in consultation with the assigned 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 regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

Essays or theses may be chosen when allowed as an option in the concentration, after consultation with the advisor. A final oral examination will 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.

Communication Studies

The Master of Arts in Communication with a concentration in Communication Studies 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, or desiring in-depth study of research and analytical skills (a highly desired skill set by employers). Requirements include:

COM 7000 Introduction to MA Studies in Communication

Select a minimum of six courses, including one Methods Course preferably all from any of the following four tracks: 18

Rhetorical Theory and Criticism

COM 6350 Communication, Culture, and Conflict

COM 7110 Theory of Argument

COM 7190 Classical Rhetorical Theory

COM 7200 Rhetoric of Visual Culture

COM 7250 Rhetorical Criticism

COM 7300 Feminist Rhetorical Criticism

COM 7350 Rhetoric of Citizenship and National Identity

COM 8350 Advanced Study in Rhetorical Criticism

Interpersonal Communication and Social Influence

COM 6180 Principles of Health Communication

COM 6270 New Media Theory

COM 6350 Communication, Culture, and Conflict

COM 7155 Theories of Interpersonal Communication

COM 7170 Health Communication

COM 7260 Quantitative Research Methods in Communication

COM 7340 Interviewing

COM 7360 Qualitative Research Methods in Communication

COM 7365 Ethnographic Methods for Communication Research

COM 7410 Communication Theory

COM 7580 Content Analysis

COM 8170 Seminar in Interpersonal Communication

DR 7100 Roots of Social Conflict

DR 7210 Concepts and Processes of Dispute Resolution I: Negotiation Theory and Practice

Small Group and Organizational Communication

COM 6180 Principles of Health Communication

COM 6200 Theories of Small Group Processes

COM 6250 Organizational Communication

COM 7140 Public Relations Campaigns and Issues Management

COM 7150 Micro-Level Organizational Communication

COM 7160 Crisis Communication

COM 7165 Communication and Issue Management

COM 7170 Health Communication

COM 7240 Communication Consulting and Training

COM 7410 Communication Theory

DR 7210 Concepts and Processes of Dispute Resolution I: Negotiation Theory and Practice

Political and Public Communication

COM 6100 Speech Writing

COM 6350 Communication, Culture, and Conflict

COM 7040 Language and Power

COM 7120 Contemporary Political Campaigns

COM 7130 Research in Social Movements

COM 7250 Rhetorical Criticism

COM 7260 Quantitative Research Methods in Communication

COM 7700 Mass Media and Political Communication

DR 6120 Human Diversity and Human Conflict

DR 7100 Roots of Social Conflict

DR 7210 Concepts and Processes of Dispute Resolution I: Negotiation Theory and Practice

Plan Options (select one of the following):

Plan A

COM 8999 Master's Thesis Research and Direction (eight credits required)

Additional elective courses to total a minimum of 32 credits

Plan C

Additional elective courses to total 35-48 credits

Journalism

The Journalism Concentration 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 3

COM 6280 Reporting on Diversity 3

COM 7000 Introduction to MA Studies in Communication 3

Select one of the following Research Methods Courses: 3

COM 6530 Audience Measurement and Survey Techniques

COM 7260 Quantitative Research Methods in Communication

COM 7365 Ethnographic Methods for Communication Research

COM 7580 Content Analysis

Select one of the following Theory Courses: 3

COM 7410	Communication Theory	
COM 7520	Theories of Media Effects	
COM 7700	Mass Media and Political Communication	

Select five of the following, as may be appropriate for the concentration, selected in consultation with the advisor: 13-15

COM 5250	Professional Issues in News Media Management	
COM 5300	Layout and Design	
COM 5310	Investigative Reporting	
COM 5381	TV News Reporting and Digital Editing	
COM 5420	Director's Workshop	
COM 5460	Magazine Writing	
COM 5500	Journalism and New Media	
COM 5700	Political and Governmental Reporting	
COM 6190	Internship	
COM 7330	Advanced Layout and Design	
COM 7999	Master's Essay Direction	

Select 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 the advisor

Select one of the following plan options: 33

Plan B

Select 33 credits (minimum) including 3 credits in COM 7999 with an approved essay

Plan C

Select 33 credits (minimum) of coursework from the requirements listed above approved by the advisor and listed on the plan of work.

Media Arts

The Media Arts concentration is a professionally-oriented program that emphasizes production and other creative activity, with exposure to theory and research. The concentration is designed for those currently working in mass media and those who wish to pursue a career in that industry. Requirements include:

COM 5270	Screenwriting	4
COM 5380	Video Field Production and Editing	3
COM 5400	Techniques of Film and Video Production	4
COM 7000	Introduction to MA Studies in Communication	3

Select one of the following Theory Courses: 3

COM 7520	Theories of Media Effects	
	or COM 7530 Critical Mass Communication Theory	

Select one of the following Research Methods Courses: 3

COM 6530	Audience Measurement and Survey Techniques	
COM 7260	Quantitative Research Methods in Communication	
COM 7360	Qualitative Research Methods in Communication	
COM 7510	Seminar in Research Methods	
COM 7580	Content Analysis	
COM 7610	Feminist Media Theory and Criticism	

Two additional COM courses numbered 5000 or higher (appropriate to Media Arts concentration, selected in consultation with the advisor)

Additional elective courses selected in consultation with the advisor to total a minimum of 35 credits

Select one of the following options:

Plan B

Three credits in COM 7999 with an approved essay, in consultation with the advisor

Plan C

Appropriate course work as approved by the advisor and listed on the plan of work.

Media Studies

The Media Studies concentration is an academically-oriented program for students interested in radio, television, film, or other mass communication or related phenomena. This concentration 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 MA Studies in Communication 3

Select one of the following Theory Courses: 3

COM 7520	Theories of Media Effects	
	or COM 7530 Critical Mass Communication Theory	

Select one of the following Research Methods Courses: 3

COM 6530	Audience Measurement and Survey Techniques	
COM 7260	Quantitative Research Methods in Communication	
COM 7360	Qualitative Research Methods in Communication	
COM 7510	Seminar in Research Methods	
COM 7580	Content Analysis	
COM 7610	Feminist Media Theory and Criticism	

Four additional COM courses numbered 5000 or higher (appropriate to Media Studies concentration)

One additional course numbered 7001 or higher

Additional elective courses selected in consultation with the advisor to total a minimum of 35 credits

Select one of the following plan options:

Plan B

Three credits in COM 7999 with an approved essay, in consultation with the advisor

Plan C

Appropriate coursework as approved by the advisor and listed on the plan of work

Public Relations and Organizational Communication

The Public Relations and Organizational Communication concentration 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. The degree requires a minimum of 30 credits.

Required courses: 18

COM 7000	Introduction to MA Studies in Communication	
COM 6250	Organizational Communication	
COM 6140	Public Relations Theory	
COM 7140	Public Relations Campaigns and Issues Management	
COM 6190	Internship ¹	
COM 7220	Professional Issues in Applied Communication ²	

At least one of the following Research Methods courses:	3
COM 7250 Rhetorical Criticism	
COM 7260 Quantitative Research Methods in Communication	
COM 7360 Qualitative Research Methods in Communication	
At least two of the following Public Relations & Organizational Communication content area elective courses:	6
COM 6100 Speech Writing	
COM 7150 Micro-Level Organizational Communication	
COM 7160 Crisis Communication	
COM 7210 New Media and Strategic Communication	
COM 7240 Communication Consulting and Training	
COM 7410 Communication Theory	
One additional course chosen in consultation with advisor	3
Total Credits	30

¹ **Option 1: Traditional Internship**
Work for a specified number of hours at an approved internship site where students can acquire and build upon skills that will serve their career goals. Students are required to have a site supervisor.

Option 2: Service Learning Internship Project
Complete a service-learning project in conjunction with the graduate internship coordinator. Students are required to have a site supervisor at the hosting organization.

Option 3: Worksite Internship Project
Students take on a project at their current organization, provided that it significantly extends the scope of their current responsibilities or introduces them to a new domain of practice within the organization. The graduate internship coordinator must approve the project. Students are required to have a designated site supervisor other than their current supervisor.

² Capstone course.

Communication (Ph.D.)

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 communication areas such as computer-mediated communication, critical and cultural studies, dispute resolution, health and risk communication, interpersonal communication, journalism studies, media effects, media studies, organizational communication, public relations, and rhetorical theory and criticism.
3. To prepare students for communication related careers in public service organizations and private business.
4. To prepare communication educators.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 on a 4.0 scale. In those instances where an applicant's M.A. is not communication-related, or there are 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 (<http://wayne.edu/admissions/graduate>)
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 or a master's thesis
5. Graduate Record Examination (GRE) scores (minimum 50th percentile required). International students are also required to submit scores from Test of English as a Foreign Language (TOEFL) (minimum 100 on Internet-based Test required) or equivalent tests
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 through Graduate Admissions, except for current Wayne State University graduate students, who should submit all application materials directly to the department.

Doctoral 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, COM 9992, COM 9993, and COM 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 (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

All students must complete COM 8000: Introduction to Ph.D. Studies in Communication in the first semester of coursework with a grade of B or better. Students must also complete COM 7810: Seminar in Communication Education in their first semester of coursework, but this can be waived. The student's Coursework Worksheet and Plan of Work must be developed in consultation with the advisor; the Worksheet must be filed within the first eighteen credits and the Plan of Work within the first twenty-seven credits of study.

Requirements

COM 8000	Introduction to PhD Studies	3
COM 7810	Seminar in Communication Education (can be waived)	3

- Minimum five Tool/Methods courses. Up to two graduate-level transfer courses may be applied, but these will not count toward the required minimum sixty credits of coursework. Foreign language reading and writing proficiency as determined by appropriate tests can count as one Tool course, if the adviser judges the language directly relevant to the dissertation project.
- Minimum four Content courses in the Department of Communication that together constitute a research area specialization
- Additional Elective Content courses as needed to achieve minimum sixty credits of coursework (includes up to thirty credits transferred from prior graduate-level coursework, if applicable).
- Content courses (minimum nine credits) outside the Department of Communication that together constitute a Minor/Cognate.

- Minimum thirty dissertation credits (COM 9991, COM 9992, COM 9993, COM 9994, each seven and half credits, to be taken in consecutive semesters).
- Successful completion of the written and oral parts of the Qualifying Examination.
- Successful presentation and defense of the Dissertation Prospectus.
- Successful presentation and defense of the Doctoral Dissertation.

Communication and New Media (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, at least a 3.0 grade point average 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.

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 only when there is concurrent enrollment in the Certificate and the M.A. programs. 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 regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

Required Courses

COM 5280	New Media Practices	3
COM 6270	New Media Theory	3

Elective Courses

Select minimum of six credits of the following:		6
COM 5500	Journalism and New Media	
COM 6220	Dispute Resolution and Communication Technology	
COM 6530	Audience Measurement and Survey Techniques	
COM 6680	Directed Projects in Film and Media	
COM 7330	Advanced Layout and Design	
LDT 7130	Facilitation of On-Line Learning	

LDT 7180	Message Design for Learning	
LDT 7210	Foundations of Distance Education	
Total Credits		12

Dispute Resolution (Graduate Certificate)

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 certificate is administered by the Academic Director.

Admission Requirements

Applicants must meet the admission standards of the Graduate School (p. 17). In addition, at least a 3.0 grade point average 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 two letters of recommendation.

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 only when there is concurrent enrollment in the certificate and the M.A. programs. 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 regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136). The following courses are required:

Required core courses

PCS 6100	Introduction to Graduate Peace and Security Studies	3
DR 7210	Concepts and Processes of Dispute Resolution I: Negotiation Theory and Practice	3
DR 7220	Concepts and Processes of Dispute Resolution II: Neutral Intervention Theory and Practice	3
DR 7890	Final Seminar in Dispute Resolution	3
Select one of the following:		3
DR 6120	Human Diversity and Human Conflict	
COM 6350	Communication, Culture, and Conflict	
DR 7100	Roots of Social Conflict	

Total Credits		15
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Dispute Resolution (M.A./J.D.)

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 M.A. program in dispute resolution.

Admission Requirements

Students in this program must first be admitted to the Law School and then apply to the M.A. program in Dispute Resolution (M.A.D.R.). During their first year of Law School, joint degree seeking students should apply to the M.A.D.R. program using the online Application for Graduate Admission form (see admission requirements for M.A.D.R. listed above).

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 and after consultation with the Academic Director of M.A.D.R., 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 DR 7220 (Neutral Intervention) and DR 7210 (Negotiation), respectively, 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.

Dispute Resolution (M.A.D.R.)

The M.A. in Dispute Resolution is an interdisciplinary master's degree program housed in the Department of Communication.

The Master of Arts in Dispute Resolution (MADR) offers a challenging program, informed by a multicultural perspective, in the growing and recognized field of dispute resolution. As an interdisciplinary field, grounded in the fundamental idea that dispute resolution techniques are inherently democratic in giving voice to disputants, the program provides practical and academic experience that constitutes the range of dispute resolution activities: community, civil and school mediation, organizational and family dispute intervention, legal or business negotiation, and international peacemaking and diplomacy.

Admission Requirements

Applicants must meet the admission standards of the Graduate School (p. 17). In addition, at least a 3.0 grade point average 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.

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 two approved elective courses (minimum of six credits). All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136). A 3.0 grade point average 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 'B' or below in any two graduate courses will constitute a sufficient basis for dismissal from the program. 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

Degree Requirements

Core Curriculum		24
PCS 6100	Introduction to Graduate Peace and Security Studies	
COM 6350	Communication, Culture, and Conflict	
DR 6120	Human Diversity and Human Conflict	
DR 7100	Roots of Social Conflict	
DR 7210/ MGT 7780	Concepts and Processes of Dispute Resolution I: Negotiation Theory and Practice	

DR 7220	Concepts and Processes of Dispute Resolution II: Neutral Intervention Theory and Practice	
DR 7310/ LEX 7660	Practicum in Dispute Resolution	
DR 7890	Final Seminar in Dispute Resolution	
Electives (minimum 2 courses)¹		6
Total Credits		30

¹ In addition to the core courses, students are required to take a minimum of two electives, adding up to six credits minimum, from courses offered within the Department of Communication or by other Departments across campus. Electives should be selected in consultation with the academic director of the dispute resolution program.

Health Communication (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, at least a 3.0 grade point average 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.

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 only when there is concurrent enrollment in the Certificate and the M.A. programs. 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 regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

COM 6180	Principles of Health Communication	3
Select two of the following:		6
COM 5130	Communication and Social Marketing	
COM 7010	Special Topics	
COM 7150	Micro-Level Organizational Communication	
COM 7170	Health Communication	
Select one of the following:		3
ANT 5400	Anthropology of Health and Illness	
COM 6190	Internship	
FPH 7320	The Social Basis of Health and Health Care	

Music

Office: 1321 Old Main; 313-577-1795; e-mail: music@wayne.edu

Chairperson: Norah Duncan IV

Interim Associate Chairperson: Douglas Bianchi

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

Mission Statement

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, as well as unique creative and scholarly opportunities appropriate to a large research university. The Department also cultivates a deep aesthetic understanding of music in our students and the larger urban arts community.

- Music (M.A.) (p. 145)
- Music (M.Mus.) (p. 146)
- Orchestral Studies (Graduate Certificate) (p. 148)

Music (M.A.)

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:

- Composition/Theory
- Conducting
- Performance
- Jazz Performance
- Music Education

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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 (<http://www.music.wayne.edu/auditions.php>).

All students admitted to Master's degrees are required to pass departmental diagnostic examinations (http://www.music.wayne.edu/graduate_curr.php) in theory and history.

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 (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.

Academic 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. All courses in the student's major must be completed with a grade of 'B' or higher to be counted towards program credit. 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. Additionally, 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 regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

Music (M.A.)

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.

Music History and Theory

MUH 5300	Music Research	3
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MUH 73XX: 6-9 credits chosen in consultation with the program advisor	6-9
MUH 8999 Master's Thesis Direction	8
MUT 7XXX: 6-9 credits chosen in consultation with the program advisor	6-9
Music electives or cognates	6
Oral Examination	0
Total Credits	32

Music (M.Mus.)

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:

- Composition/Theory
- Conducting
- Performance
- Jazz Performance
- Music Education

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17). 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 (<http://www.music.wayne.edu/auditions.php>).

All students admitted to Master's degrees are required to pass departmental diagnostic examinations (http://www.music.wayne.edu/graduate_curr.php) in theory and history.

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 (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.

Academic 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. All courses in the student's major must be completed with a grade of 'B' or higher to be counted towards program credit. 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. Additionally, 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 regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

Music: Composition/Theory (M.Mus.)

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.

Music History

MUH 5300 Music Research	3
MUH 7XXX (selected in consultation with program advisor)	6

Music Theory and Composition

Select twelve credits in consultation with the program advisor from MUT 7020 - MUT 7992 12

MUT 7020 Seminar in Schenkerian Analysis	
MUT 7040 Seminar in Twentieth Century Music	
MUT 7050 Seminar in Music Theory Pedagogy	
MUT 7085 History of Theory	
MUT 7100 Graduate Composition (Composition Focus students must elect 9 credits of MUT 7100 (Max. 12))	
MUT 7200 Special Topics in Theory	
MUT 7992 Directed Study in Theory (Max. 6)	
MUT 8999 Master's Thesis Direction (see below)	8
Music or Non-music Electives	3
Oral Examination	0
Total Credits	32

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

Music: Conducting (M.Mus.)

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.

Music History

MUH 5300	Music Research	3
MUH 7370	Studies in Advanced Literature for Conductors ¹	3
MUH 73XX (chosen in consultation with program advisor)		6

Music Theory

MUT 7020	Seminar in Schenkerian Analysis	3
MUT 7XXX (chosen in consultation with program advisor)		3

Conducting and Ensemble

Select one of the following (Major Ensemble) (Req. 2):		2
MUA 7800	University Bands	
MUA 7810	University Symphony Orchestra	
MUA 7840	Choral Union	
MUA 7850	Concert Chorale	
MUP 739X (Major Private Instr. in Conducting) (Max. 12)		9
MUP 8290	Recital	1
Music or Non-music Electives		2
Oral Examination		0
Total Credits		32

¹ Note: one additional MUH 73XX may substitute for MUH 7370 with the approval of the program advisor

Music: Jazz Performance (M.Mus.)

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.

Music History

MUH 5300	Music Research	3
MUH 5360	Jazz History	6
& MUH 7390	and Studies in Jazz History	

Music Theory

MUT 7070	Advanced Jazz Theory and Analysis	3
MUT 7XXX (chosen in consultation with the program advisor)		3

Performance

MUA 7820	Jazz Big Band (Req. 3)	3
Select one of the following (Max. 2):		1
MUA 7822	Jazz Guitar Ensemble	
MUA 7824	Jazztet	
MUA 7826	Jazz Combos	
MUP 73XX (Major Private Instruction) (Max. 12)		9
MUP 8290	Recital (Graduate Recital with Program Notes) ¹	1
Music or Non-music Electives		3
Oral Examination		0
Total Credits		32

¹ Program must include original compositions/arrangements

Music: Instrumental Performance (M.Mus.)

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.

Music History and Theory

MUH 5300	Music Research	3
MUH 73XX (chosen in consultation with program advisor)		6
MUT 70XX (chosen in consultation with program advisor)		6

Performance and Ensembles

Large Ensembles and Chamber Music must total a minimum of 3 credits		
Select one of the following (Large Ensemble) (Max. 2):		1-2
MUA 7800	University Bands	
MUA 7810	University Symphony Orchestra	
MUA 7840	Choral Union	
MUA 7850	Concert Chorale	
MUA 7880	Chamber Music and Special Ensembles	1
MUP 7XXX (Major Private Instruction)(Max. 12)		9
MUP 8290	Recital (Graduate Recital with Program Notes)	1
Music or Non-music Electives		4
Oral Examination		0
Total Credits		32

Music: Vocal Performance (M.Mus. Program)

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	3
MUH 73XX (chosen in consultation with program advisor)		6
MUT 7XXX (chosen in consultation with program advisor)		3

Performance and Ensembles

MUA 7730	Advanced Diction	3
Select one of the following (chosen in consultation with program advisor) (Max. 3)		1-3
MUA 7840	Choral Union	
MUA 7850	Concert Chorale	
MUA 7860	Opera Workshop	
MUA 7880	Chamber Music and Special Ensembles	1
MUP 722X (Major Private Instruction) (Max. 12)		9
MUP 8290	Recital (Graduate Recital with Program Notes)	1
Music or Non-music Electives		3
Oral Examination		0
Total Credits		32

Music Education (M.Mus.)

Note: The M. Mus. degree in music education is currently under revision with plans for updating the curriculum to accommodate recent reforms in education while addressing the needs of practicing teachers. Consequently there is new student admissions moratorium in effect for

this program. For current information, please contact the Department of Music, 313-577-1795.

Orchestral Studies (Graduate Certificate)

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 Requirements

The Orchestral Studies Graduate Certificate Program is currently under revision with plans for updating the curriculum. Consequently, there is a new student admissions moratorium in effect for this program. For current information, please contact the Department of Music 313-577-1775.

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

MUA 7810	University Symphony Orchestra (3 Req.)	1
MUA 7875	Orchestral Repertory (2 Req.; Max. 3)	1
MUA 7880	Chamber Music and Special Ensembles (Max. 3)	1
Note: MUA 7875 and MUA 7880 elections must total 3 credits; if MUA 7875 is repeated for 3 credits, MUA 7880 is not required.		
MUP 72XX	(Major Private Instruction on principal instrument) (Max. 12)	9

Theatre and Dance

Office: 3226 Old Main; 313-577-3508
 Chairperson: John Wolf
<http://www.theatreanddance.wayne.edu>

- Arts Administration (M.A.) (p. 148)
- Theatre (M.F.A.) (p. 148)
- Theatre and Dance (M.A.) (p. 150)

Arts Administration (M.A.)

The Master of Arts in Arts Administration program offers a broad arts administration education as well as focus within specific areas of practice. The program fosters leadership and management skills, explores processes of innovation and creativity, examines networks and sources of support, while drawing on sound business and administrative training. The program also makes use of local dynamic arts institutions and the smaller entrepreneurial arts and cultural organizations. Students will receive the background to lead arts and cultural organizations such as theaters, galleries, museums, arts and culture festivals, arts centers, arts councils, local and regional arts boards, dance companies, community arts and cultural organizations, and musical ensembles including symphonies, orchestras, jazz and choral groups.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

The program requires a minimum total of 30 credits. The curriculum may be fulfilled with a minimum of 28 credits of coursework and 2 credits of Master's Essay Direction or an approved Directed Study.

Degree Requirements

Required Core Courses		10
THR 5640	Introduction to Accounting for Nonprofit Organizations	
COM 5600	Strategic Communication in Nonprofit and the Arts Organizations	
	or THR 6651 Public Relations and the Arts	
THR 7671	Funding and Grant writing for the Arts	
THR 7999	Master's Essay Direction	
	or THR 7990 Directed Study	
General Electives (select 2 of the following)		6
FPC 5025	Entrepreneurship in the Arts	
FPC 5660	Creativity	
THR 7651	Leadership in the Arts	
THR 8689	Internships in Theatre Management	
Departmental Electives		14
AH 5855	Museum Practicum	
ACS 5200	Art Gallery Management	
ACS 5210	Art Gallery Internship	
ACS 5650	Museum Culture: Histories, Critiques, Practices	
COM 6200	Theories of Small Group Processes	
FPC 5025	Entrepreneurship in the Arts	
FPC 5660	Creativity	
MUA 5600	Music Business II	
MUA 5800	Music Business IV	
THR 6661	Marketing the Theatre	
THR 6675	Board Governance in the Theatre	
THR 7651	Leadership in the Arts	
THR 7655	Human Resources and Financial Management for the Arts	
THR 7661	Market Data and Decisions in the Arts	
THR 7665	Sourcing and Managing Project Funds	
THR 8651	Entrepreneurship in the Theatre	
THR 8661	The Media and the Theatre	
THR 8665	Managing Groups and Teams	
THR 8689	Internships in Theatre Management	
Total Credits		30

Theatre (M.F.A.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Fine, Performing, and Communication Arts (p. 136).

Acting

Sixty Credits (Open only to members M.F.A. in Theatre.)

THR 5812	Development of the Drama II: Nineteenth Century to Modern (Max. 3)	3
THR 6211	Acting Studio I: Fundamentals of the Stanislavski System	2
THR 6215	Acting Studio II: Introduction to the Michael Chekhov	2
THR 7211	Acting Studio III: Advanced Michael Chekhov Technique	2
THR 7215	Acting Studio IV: Advanced Study of Active Analysis and Physical Approach to Acting	2
THR 8211	Acting Studio V: Preparation for the Profession	2
THR 8215	Acting Studio VI: Audition and Composition	2
THR 6221	Theatrical Movement I - Introduction to Physical Awareness	1
THR 6235	Voice and Speech II: Speech Foundations	1
THR 7231	Voice and Speech III - Vocalizing Heightened Language & Shakespeare	1
THR 7235	Voice and Speech IV: Musical Theatre & Singing Techniques	1
THR 8231	Voice and Speech V: Accents & Dialects for Stage and Media	1
THR 8235	Voice and Speech VI - Media Techniques	1
THR 6221	Theatrical Movement I - Introduction to Physical Awareness	1
THR 6225	Theatrical Movement II - Introduction to Movement Analysis	1
THR 7221	Theatrical Movement IV: Dance Techniques	1
THR 7225	Theatrical Movement IV - Ensemble Physicality	1
THR 8221	Theatrical Movement V - Acrobatics	1
THR 8225	Theatrical Movement VI - Composition and Physical Devising	1
THR 5721	Playwriting	3
THR 7271	Acting for the Camera	3
THR 7281	Theatre Aesthetics	3
THR 7581	Repertory Theatre: Acting (Max. 18)	1-4
THR 7741	Dramaturgy	3
THR 8995	MFA Acting Exit Project	3

Theatre Management

Sixty Credits

THR 6651	Public Relations and the Arts	3
THR 6661	Marketing the Theatre	3
THR 6671	Interpersonal Dynamics	2
THR 6675	Board Governance in the Theatre	2

THR 7584	Repertory Theatre Management (Max. 12)	1-3
THR 7651	Leadership in the Arts	3
THR 7661	Market Data and Decisions in the Arts	2
THR 7655	Human Resources and Financial Management for the Arts	3
THR 7671	Funding and Grant writing for the Arts	3
THR 7665	Sourcing and Managing Project Funds	2
THR 8651	Entrepreneurship in the Theatre	3
THR 8661	The Media and the Theatre	2
THR 8665	Managing Groups and Teams	2

Business/Theatre Coursework: Select two courses from the following (other courses may be substituted with advisor approval):

Business Electives		
BA 7040	Managing Organizational Behavior	
COM 5300	Layout and Design	
Theatre Electives		
THR 5841	Theatre History I	
THR 5811	Development of the Drama I: Greek to Eighteenth Century	
THR 5842	Theatre History II	
THR 5812	Development of the Drama II: Nineteenth Century to Modern	
THR 7741	Dramaturgy	
THR 7281	Theatre Aesthetics	
THR 8991	MFA Management Exit Project	

Stage Management

Sixty Credits

THR 6601	Studio I	2
THR 6605	Studio II	2
THR 7601	Studio III	2
THR 7605	Studio IV	2
THR 8601	Studio V	2
THR 8605	Studio VI	2
THR 6301	Foundations of Graduate Design	2
THR 7583	Repertory Theatre: Stage Management (Max. 12)	1-4
THR 8991	MFA Management Exit Project	3

Theatre Electives		
History and Criticism Sequence		
Select four of the following:		12
THR 5821	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5721	Playwriting	
THR 5812	Development of the Drama II: Nineteenth Century to Modern	
THR 7741	Dramaturgy	
THR 7281	Theatre Aesthetics	
Theatre Arts & Crafts Sequence		
Select four of the following:		12
THR 5321	Theatre Costuming I	
THR 5325	Theatre Costuming II	
THR 5721	Playwriting	
THR 5331	Stage Lighting	
THR 5311	Stage Design	
THR 5422	Introduction to Scene Painting	

THR 5335	Advanced Stage Lighting Design	
THR 7381	Architecture and Decor	
THR 8941 & THR 8945	Teaching Internship I and Teaching Internship II	6
Other Electives with advisor's approval		

Theatre Stage Design

Sixty Credits

THR 5315	Advanced Stage Design	3
THR 5422	Introduction to Scene Painting	3
THR 5426	Advanced Scene Painting	3
THR 6301	Foundations of Graduate Design	2
THR 6381	Styles of Design	3
THR 6311	Professional Scenic Design I	3
THR 6315	Professional Scenic Design II	3
THR 6361	Design Studio I	2
THR 6365	Design Studio II	2
THR 8301	Design Studio III	2
THR 8305	Design Studio IV	2
THR 7582	Repertory Theatre: Design (12 req.)	1-4
THR 7381	Architecture and Decor	3
THR 8992	MFA Design Exit Project	2
Design Cognates (with advisor's approval)		6
Theatre Studies (with advisor's approval)		9

Stage Lighting Design

Sixty Credits

THR 5335	Advanced Stage Lighting Design	3
THR 6301	Foundations of Graduate Design	2
THR 6331	Professional Lighting Design I	3
THR 6335	Professional Lighting Design II	3
THR 6361	Design Studio I	2
THR 6365	Design Studio II	2
THR 8301	Design Studio III	2
THR 8305	Design Studio IV	2
THR 6381	Styles of Design	3
THR 7582	Repertory Theatre: Design (Max. 18)	1-4
THR 7381	Architecture and Decor	3
THR 8992	MFA Design Exit Project	2
Design Cognates (with advisor's approval)		6
Theatre Studies (with advisor's approval)		9

Stage Costume Design

Sixty Credits

THR 5315	Advanced Stage Design	3
Select two of the following:		6
THR 5331	Stage Lighting	
THR 5311	Stage Design	
THR 5335	Advanced Stage Lighting Design	
THR 6301	Foundations of Graduate Design	2
THR 6321	Professional Costume Design I	3
THR 5451	Advanced Stage and Film Makeup	2
THR 6325	Professional Costume Design II	3

THR 6361	Design Studio I	2
THR 6365	Design Studio II	2
THR 8301	Design Studio III	2
THR 8305	Design Studio IV	2
THR 6381	Styles of Design	3
THR 7321	Costume History and Design I	3
THR 7325	Costume History and Design II	3
THR 7381	Architecture and Decor	3
THR 8992	MFA Design Exit Project	2
Design Cognates (with advisor's approval)		6
Theatre Studies (with advisor's approval)		9
Electives (with advisor's approval)		10

Theatre and Dance (M.A.)

The Master of Arts degree includes a three-year program of advanced studies in theatre and dance, designed to provide specialized training in research methods and assessment, pedagogical foundations of teaching artistry, artistic practice and inquiry, and community engagement.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

The program requires a total of thirty two (32) credits, and can be completed in one of two options:

- Plan A (Thesis): Includes 24 credits of coursework and 8 credits of Master's Thesis Research and Direction
- Plan B (Essay): Includes 28 credits of coursework and 4 credits of Master's Essay Direction

Plan A: Thesis

Three-Year Part-Time Plan

THR 7951	Foundations of Theatre and Dance Pedagogy	3
THR 7901	Research Methods in Theatre and Dance	3
THR 8875	Seminar: Research Topics in Theatre and Drama	3
THR 8951	Art and Human Development	3
The following course should be taken twice for credit:		6
THR 8961	Artistic Praxis	
The following course should be taken twice for credit:		6
THR 8965	Principles of Teaching Artistry	
THR 8999	Master's Thesis Research and Direction	8
Total Credits		32

Plan B: Essay

Three-Year Part-time Plan

THR 5700	Performance Studies	3
THR 5731	Applied Theatre Studies: Community Possibilities	3
THR 5738	Applied Theatre Practicum	1
THR 7741	Dramaturgy	3
THR 7951	Foundations of Theatre and Dance Pedagogy	3
THR 7901	Research Methods in Theatre and Dance	3
THR 7999	Master's Essay Direction	4
THR 8875	Seminar: Research Topics in Theatre and Drama	3
THR 8951	Art and Human Development	3

THR 8961	Artistic Praxis	3
THR 8965	Principles of Teaching Artistry	3
Total Credits		32

LAW SCHOOL

Dean: Richard Bierschbach

Wayne State University Law School, founded in 1927, is located in the heart of Detroit's historic cultural center, offering a unique urban experience. Detroit's vibrant legal market including government offices, state and federal courts, multinational corporations, unions and major law firms provides students with a wide range of opportunities for employment and externships. Our students are bright, mature, conscientious and altruistic. They come from unique backgrounds and professions, some having previously served as doctors, musicians, actors, engineers and law enforcement officers before pursuing the law. Wayne Law also offers a network of more than 11,000 living alumni, including established leaders of the legal community, practicing throughout the nation and in more than a dozen foreign countries. Our expert faculty's nationally and internationally recognized scholarship adds depth to our students' understanding of legal theory, doctrine and practice. Wayne Law students, faculty and alumni are deeply engaged in the community and profession.

Accreditation & 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.

Setting & Facilities

The Law School is a flagship unit of Wayne State University, a major metropolitan research university located in the heart of Midtown, about four miles from downtown Detroit. Within blocks of the Law School are the Detroit Public Library, Detroit Institute of Arts, Charles H. Wright Museum of African American History, Detroit Science Center and other cultural attractions. The city of Detroit shares an international border with Canada and offers access to Michigan's largest concentration of law firms and state and federal courts.

The Law School complex includes four buildings - Classroom Building, Damon J. Keith Center for Civil Rights, Law Building and Arthur Neef Law Library with lounges, gathering areas and meeting rooms. The three-floor Arthur Neef Law Library offers print and digital resources, a computer lab, 14 study rooms and wireless access. Special collections cover antitrust law, international law, Jewish law and Michigan law.

Degrees

The Law School offers academic programs leading to the degrees of Juris Doctor (J.D.) 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.

Damon J. Keith Center for Civil Rights

The Damon J. Keith Center for Civil Rights at Wayne Law is a regional hub for civil rights teaching, research and advocacy, training and inspiring the next generation of civil rights leaders in honor of the legacy of Judge Damon J. Keith. At the center, stakeholders gather to analyze policy, law students teach a civil rights curriculum to high school students and leaders dive into the issues of the day, such as tax foreclosures, water shutoffs and police-community relations. The center welcomes

the public for lectures by civil rights icons, supports community-based organizations and publishes scholarship about how the law and social justice impact one another. The center offers the nation's first and only repository dedicated to African-American legal history, along with a traveling exhibit about the 14th Amendment's guarantee of equal protection under the law.

In summer 2014, WSU was awarded a three-year, \$1.3 million grant from the W.K. Kellogg Foundation to launch the Detroit Equity Action Lab at the Keith Center. Through this initiative, 60 leaders working in the many dimensions of racial equity, including arts and media, community development, education, environment, food security, health care and housing, will address issues of structural racism in Detroit.

For more information about the Keith Center, visit [law.wayne.edu/keithcenter](http://www.law.wayne.edu/keithcenter) (<http://www.law.wayne.edu/keithcenter>).

Arthur Neef Law Library

The Arthur Neef Law Library provides a major legal research center for Wayne Law students and faculty. Its special collections include the Alwyn V. Freeman International Law Collection, Driker Antitrust Law Collection, Jewish Law Collection and a comprehensive collection of current and historical Michigan law materials that include the Michigan Supreme Court Records and Briefs, Michigan probate court opinions and Michigan Superfund site documents. The law library is a selective depository for U.S. government publications. The law library's extensive print and digital resources are accessible at [library.wayne.edu/neef](http://www.library.wayne.edu/neef) (<http://www.library.wayne.edu/neef>).

Databases and other e-resources are easily discoverable and remotely accessible.

The law library building was designed to make optimal use of natural light in reading and study areas. Tables, carrels and soft-seating areas are available throughout the law library and offer wired and wireless access to networked resources. Our students may reserve any of the 14 study rooms through an online reservation system. A computer lab featuring desktop computers, printers and scanners is reserved for the exclusive use of Wayne Law students.

Law School Calendar 2016 - 18

The following calendar is for the Law School curriculum.

Fall Term: 2016

Priority TBD - Sat., Aug. 20

Registration for Fall Term 2016:

Open Mon., Aug. 22 - Sat. Aug. 27

Registration for Fall Term 2014:

Orientation and Mon. Aug. 22

Legal Writing Program Begins for All First Year Students (Day, Evening & Combined Program):

Law Classes Mon., Aug. 29

Begin for All Law Students:

Late Registration for Fall Term 2016: Mon., Aug. 29 - Mon., Sept. 12

Labor Day	Mon., Sept. 5
Recess:	
Last Day to Add/ Drop Courses for Tuition refund:	Mon., Sept. 12
Last Day for Filing Degree Application	Fri., Sept. 30
Deadline to file Election of Pass- No Credit Grading forms:	Mon., Oct. 10
Deadline to file Upperclass Writing Requirement Certificate forms:	Mon., Oct. 10
Priority Registration for Winter Term 2017:	Wed., Nov. 2 (tentative) - Sat., Dec. 31
Day Scheduled as Thursday:	Tues., Nov. 22
Day Scheduled as Friday:	Wed., Nov. 23
Thanksgiving Recess:	Thurs., Nov. 24 to Sat., Nov. 26
Classes End:	Wed., Nov. 30
Review and Reading Period:	Thurs., Dec. 1 - Wed., Dec. 7
Law School Examination Period:	Thurs., Dec. 8 - Wed., Dec. 21
Holiday Recess:	Sunday, Dec. 25 - Sunday, Jan. 1
Fall Term Ends:	Sat., Dec. 31

Winter Term: 2017

Winter Term Begins:	Sun., Jan. 1
Open Registration for Winter Term 2017:	Mon., Jan. 2 - Sat., Jan. 7
Classes Begin:	Mon., Jan. 9
Late Registration for Winter Term 2017:	Mon., Jan. 9 - Mon., Jan. 23
Martin Luther King Holiday - University Holiday:	Mon., Jan. 16
Last Day to Add/ Drop Courses for Tuition refund:	Mon., Jan. 23
Last Day for Filing Degree Application:	Fri., February 10

Deadline to file Election of Pass- No Credit Grading forms:	Mon., Feb. 20
Deadline to file Upperclass Writing Requirement Certificate forms:	Mon., Feb. 20
Priority Registration for Spring/Summer Term 2017:	To be determined - Sat., May 6
Law School & University Spring Recess:	Mon., Mar. 13 - Sat., Mar. 18
Classes Resume:	Mon. Mar. 20
Priority Registration for Fall Term 2017:	To be determined - Sat., Aug. 29
Open Registration for Spring/Summer Term 2017:	Mon., May 8 - Sat., May 20
Classes End:	Mon., April 17
Class make-up days if needed:	Tues., April 18 and Wed., April 19
Review and Reading Period:	Thurs., April 20 - Wed., April 26
Law School Examination Period:	Thurs., April 27 - Wed., May 10
Law School Term Ends:	Wed., May 10
Law School Commencement:	TBD

Summer Term: 2017

Memorial Day:	Mon., May 29
Classes Begin:	Mon., May 22
Late registration for summer term 2017:	Mon., May 22 - Sat., May 27
Independence Day recess:	Tues., July 4
Day Scheduled as Monday:	Fri. Jun. 2
Day Scheduled as Tuesday:	Fri., Jun. 30
Classes end:	Wed., July 5 ¹
Law School examination period.:	Mon., July 10 - Fri., July 14
Summer Term ends:	Fri., Aug. 25

¹ To make up for class days lost due to the observance of holidays, substitute class days are scheduled.

Fall Term: 2017 (tentative)

Priority Registration for Fall Term 2017:	TBD - Sat., Aug. 19
Open Registration for Fall Term 2017:	Mon., Aug. 21 - Sat. Aug. 26
Orientation and Legal Writing Program Begins for All First Year Students (Day, Evening & Combined Program):	Mon. Aug. 21
Law Classes Begin for All Law Students:	Mon., Aug. 28
Late Registration for Fall Term 2017:	Mon., Aug. 28 - Mon., Sept. 11
Labor Day Recess:	Mon., Sept. 4
Last Day to Add/Drop Courses for Tuition refund:	Mon., Sept. 11
Last Day for Filing Degree Application:	Fri., Sept. 29
Deadline to file Election of Pass-No Credit Grading forms:	Mon., Oct. 9
Deadline to file Upperclass Writing Requirement Certificate forms:	Mon., Oct. 9
Priority Registration for Winter Term 2018:	Wed., Nov. 1 (tentative) - Sat., Dec. 30
Day Scheduled as Thursday:	Tues., Nov. 21
Day Scheduled as Friday:	Wed., Nov. 22
Thanksgiving Recess:	Thurs., Nov. 23 to Sat., Nov. 25
Classes End:	Wed., Dec. 29
Review and Reading Period:	Thurs., Nov. 30 - Wed., Dec. 6
Law School Examination Period:	Thurs., Dec. 7 - Wed., Dec. 20
Holiday Recess:	Mon., Dec. 25 - Mon., Jan. 1
Fall Term Ends:	Sun., December 31

Winter Term: 2018 (tentative)

Winter Term Begins: Mon., Jan. 1

Open Registration for Winter Term 2018:	Mon., Jan. 1 - Sat., Jan. 6
Classes Begin:	Mon., Jan. 8
Late Registration for Winter Term 2018:	Mon., Jan. 8 - Mon., Jan. 22
Martin Luther King Holiday - University Holiday:	Mon., Jan. 15
Last Day to Add/Drop Courses for Tuition refund:	Mon., Jan. 22
Last Day for Filing Degree Application:	Fri., February 9
Deadline to file Election of Pass-No Credit Grading forms:	Mon., Feb. 19
Deadline to file Upperclass Writing Requirement Certificate forms:	Mon., Feb. 19
Priority Registration for Spring/Summer Term 2018:	To be determined - Sat., May 5
Law School & University Spring Recess:	Mon., Mar. 12 - Sat., Mar. 17
Classes Resume:	Mon. Mar. 19
Priority Registration for Fall Term 2018:	To be determined - Sat., Aug. 18
Open Registration for Spring/Summer Term 2018:	Mon., May 7 - Sat., May 19
Classes End:	Mon., April 16
Make-up Class days (if needed):	Tues., April 17 and Wed., April 18
Review and Reading Period:	Thurs., April 19 - Wed., April 25
Law School Examination Period:	Thurs., April 26 - Wed., May 9
Law School Term Ends:	Wed., May 9
Law School Commencement:	TBD

Summer Term: 2018 (tentative)

Classes Begin:	Mon., May 21
Late registration for summer term 2018:	Mon., May 21 - Sat., May 26

Memorial Day: Mon., May 28

Day Scheduled as Fri. Jun. 1

Monday:

Independence Wed., July 4

Day recess:

Classes end: Thur., July 5

Law School Mon., July 9 - Fri., July 13

examination

period.:

Summer Term Fri., July 24

ends:

Law (J.D. Program)

Academic Regulations

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section in the Graduate Bulletin. The following additions and amendments pertain to the Law School.

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 (<http://law.wayne.edu>) website.

First-year program

Wayne Law offers three program options for the first year of study to meet the various needs of a diverse student body. They include a full-time day program, a combined day and evening program, and a part-time evening program.

- **Full-time day program** – students take all courses during the day, completing 30 credits in their first year, 15 credits each semester
- **Combined day/evening program** – students take three courses at night, as well as one or two day courses each semester, completing 22 to 30 credits in their first year, 11 to 15 credits each semester
- **Part-time evening program** – students take three courses all at night, completing 16 credits in their first year, eight credits each semester

First-year students learn fundamental legal theory, as well as how to identify and analyze legal issues, through introductory courses including: civil procedure, constitutional law, contracts, criminal law, legal research and writing, property, and torts.

Upper-class program

Wayne Law offers a wide range of courses that prepare graduates for an evolving legal environment. Our faculty's extensive knowledge and experience allow the Law School the flexibility to adapt courses and programming to shifting legal trends. From health law, public interest law and international law to corporate law, environmental law and more, you'll find what you're looking for at Wayne Law.

Clinics

Wayne Law's client clinics are directed by full-time expert faculty members and help bridge the gap between theory and practice. Located on or close to campus and offered for credit, our clinics provide hands-on casework to law students while simultaneously assisting residents of the Detroit metropolitan community.

The Law School offers eight clinics:

- Asylum and Immigration Law Clinic
- Business and Community Law Clinic
- Civil Rights and Civil Liberties Clinic
- Criminal Appellate Practice Clinic
- Disability Law Clinic
- Legal Advocacy for People with Cancer Clinic
- Patent Procurement Clinic
- Transnational Environmental Law Clinic

Externships

Externships are an integral part of the experiential learning program at Wayne Law. Students who elect to complete an externship earn academic credit while gaining practical experience outside the Law School walls. Externships develop students' professional skills, values and judgment as they learn about professionalism, the practice of law and the legal system, while becoming reflective practitioners with the capacity for self-directed professional growth.

Wayne Law offers four externship programs:

- Corporate Counsel Externship
- Criminal Justice Externship
- Judicial Externship
- Public Interest Externship

Co-curricular programs

Wayne Law students gain an edge through a number of co-curricular programs designed to sharpen minds and heighten capabilities. Students gain hands-on experience through a number of organizations dedicated to promoting a friendly yet competitive atmosphere and shaping legal minds.

Co-curricular programs are:

- Free Legal Aid Clinic
- The Journal of Law in Society
- Mock Trial
- Moot Court
- Wayne Law Review

Joint Degree Programs

The Law School offers, in conjunction with other colleges of the university, six joint degree programs that allow students to earn both degree and a master's degree in one of the following disciplines:

- Business administration (M.B.A.)
- Criminal justice (M.S.)
- Dispute resolution (M.A.D.R.)
- Economics (M.A.)
- History (M.A.)
- Political science (M.A.)

Intellectual Property Law Institute

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. The

Institute was created in 1987 as a cooperative effort of the law faculties of Wayne State University, University of Detroit Mercy and University of Windsor in Ontario. The institute offers an exceptional, rich curriculum for law students with courses and seminars in patents, copyrights, trademarks, trade secrets and know-how, computers and related technology, communications and media, entertainment, technology transfer, trade regulation and the arts. Full-time students at each of the three law schools may register for any institute course and will pay the tuition required at their home institution. The course will be credited toward their law degree.

Levin Center at Wayne Law

Established in 2015, the Levin Center at Wayne Law educates future attorneys, business leaders, legislators and public servants on their role overseeing public and private institutions and using oversight as an instrument of change. Through academic programming, training and research, the Center will equip future lawyers, legislators and leaders with an understanding of how effective legislative oversight can lead to significant and meaningful changes in public policy.

The Center hopes to inspire and train a new generation to embrace their responsibility to ensure public and private institutions operate with integrity, transparency and accountability to the general public in honor of former U.S. Sen. Carl Levin's distinguished career in public service.

Program for Entrepreneurship and Business Law

The Program for Entrepreneurship and Business Law coordinates Wayne Law's broad array of business law courses, clinics, externships, and extracurricular/co-curricular and community engagement activities.

The breadth of the field of business and corporate law is reflected in Wayne Law's extensive business curriculum, taught by widely recognized full-time faculty.

Wayne Law also offers numerous experiential learning and extracurricular and co-curricular activities designed to prepare students to represent entrepreneurs or to become entrepreneurs themselves while supporting entrepreneurship and business development in metro Detroit. In addition, the Law School offers students the chance to represent real clients on real legal matters through the Business and Community Law Clinic and Patent Procurement Clinic.

The Program for Entrepreneurship and Business Law helps aspiring business owners in underserved communities participate in the economic revival of Detroit. The program offers early-stage legal assistance to participating local startups and creates forums for entrepreneurs to receive general legal guidance, access community resources and share their own business experience.

Program for International Legal Studies

International law cuts across all aspects of a Wayne Law legal education. One-third of the faculty teaches and writes on international subjects, and faculty members enjoy world-wide reputations as innovative and prolific scholars. Classes are available on a remarkable range of global topics. Wayne Law's Jessup International Law Moot Court Team has won the Midwest championship two of the past three years.

The Program for International Legal Studies offers students the opportunity to explore international law through classes, summer internships abroad and co-curricular activities. It hosts an annual lecture series that brings renowned international law experts to campus. The program also hosts conferences on critical issues in international law.

In addition, the program sponsors opportunities for students to work on international legal issues first hand.

Bar Admission

Wayne Law is committed to helping our students succeed in law school and pass the bar examination (<http://www.law.wayne.edu/barexam>). We believe this journey starts in your first year of law school, as students begin to master the first-year law courses, and continues through the middle and final years at Wayne Law. Our programs are designed to provide additional bar support, using diagnostic exams to predict areas that students should focus on as well as free programs to enhance essay writing skills.

In addition to our programs, we provide expert individual advice and guidance. Wayne Law students graduate with the tools and support to start bar examination preparation and ultimately to be successful in the bar exam.

Student Affairs encourages students to begin preliminary bar preparation in their first year. Our director of academic success and bar preparation can help students create a bar exam plan for each of their years at Wayne Law.

Students should consult Section I of the Law School Academic Regulations (<http://bulletins.wayne.edu/graduate/law-school/law-jd/law.wayne.edu/academicregs>) for a complete list of the requirements for the J.D. degree. Following are some of the most important requirements:

- **Total credits required.** You must complete 86 credits with a cumulative grade point average of 2.0 or better.
- **Required courses.** You must successfully complete Civil Procedure A & B, Constitutional Law I, Contracts A & B, Criminal Law, Legal Research and Writing, Property and Torts in the first year of law school and Professional Responsibility and the Legal Profession as an upper level student.
- **Upper-class writing requirement.** To satisfy the upper-class writing requirement you must participate in a class or activity offering a rigorous writing experience after your first year. Qualifying activities include Criminal Appellate Practice Clinic, Appellate Advocacy, a directed study paper, and participation on Wayne Law Review, The Journal of Law in Society or Moot Court. You also may satisfy the requirement by taking any other course, clinic, workshop or seminar with a substantial writing requirement but only if you submit to the Records Office a signed certificate by the appropriate deadline.
- **Professional skills and experiential learning requirement.** If you started at the Law School between the fall 2005 semester and the summer 2013 semester, you must complete the professional skills requirement by taking a curricular offering of two or more credits that provides substantial instruction in professional skills beyond traditional legal research, writing and analysis. If you started at the Law School in the fall 2013 or thereafter, you must complete the professional skills and experiential learning requirement by taking at least six credits of curricular offerings that provide substantial instruction in professional skills beyond traditional legal research, writing and analysis. At least three of these required credits must be a clinic, externship practicum or externship colloquium offering three or more credits that provides substantial instruction in professional skills beyond traditional legal research, writing and analysis. The courses that meet this requirement are:
 - Clinics – Asylum and Immigration Law Clinic, Business and Community Law Clinic, Civil Rights and Civil Liberties Clinic, Criminal Appellate Practice Clinic, Legal Advocacy for People with Cancer Clinic, Patent Procurement Clinic, Practicum in

Dispute Resolution and Transnational Environmental Law Clinic.

- Externships – Criminal Justice Externship: Practicum, Criminal Justice Externship: Colloquium, Corporate Counsel Externship: Practicum, Corporate Counsel Externship: Colloquium, Judicial Externship: Practicum, Judicial Externship: Colloquium, Public Interest Externship: Practicum and Public Interest Externship: Colloquium.
- Courses and seminars – Alternative Dispute Resolution, Business Planning: A Transactional Approach, Contract Drafting Seminar, Criminal Pretrial Advocacy, Effective Oral Communication for Lawyers Seminar, Negotiation, Patent Application Preparation, Pretrial Advocacy and Trial Advocacy.

You may not use the same course, seminar or clinic to satisfy both the upper-class writing requirement and the professional skills requirement.

- **Residence credit requirement.** You must complete three years in residence. A student who completes 10 credits or more in a given semester will receive one-half year of residence credit. A student who completes fewer than 10 credits in a semester will receive residence credit based on the ratio of the number of credits completed and 10 credits. You may not earn more than one-half year of residence credit during one semester, and credits earned in one semester cannot be applied to residence credit in any other semester.
- **Time limit for completing graduation requirements.** While transfer between programs is possible, a J.D. student who enters the Law School as a full-time student must complete the requirement for the J.D. degree within five years of starting the program, and a student who enters as a part-time student must complete the requirements within six years.
- **Limitation on clinical and externship courses.** Students may take not more than 14 credits of clinical and externship courses toward completion of degree requirements.
- **Transfer credits.** The Law School will transfer credits from all American Bar Association-approved law schools for courses in which the student received a grade of "C" or better. If a course is graded on a Pass/Fail or No Credit scale, the Law School only will transfer credits with a certification from the institution that a Pass is equal to a grade of "C" or better. The Law School will transfer the credits upon receipt of an official transcript sent directly from the credit-granting institution. Transfer credits are reviewed by the assistant dean of student affairs in conjunction with the registrar. The student's Law School transcript will show credit, but not grades, for courses carried and completed at other law schools. A transfer student only may receive credit for a course taken at the Law School that substantially overlaps with coursework taken at another school with the advance permission of the assistant dean of student affairs.

The above represents only a summary of the requirements for graduation. To be sure you understand all of the requirements you should carefully consult the Law School Academic Regulations.

Admissions Policies and Procedures (J.D. Program)

Preparation for law study

The Law School has no requirements with respect to the content of an applicant's undergraduate 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 pre-law preparation in the ABA-LSAC Official Guide to ABA-Approved Law Schools are excellent. The book may be ordered from the Law School Admission Council (<http://lsac.org>) and is available in most bookstores and libraries.

Admissions Policy

The Law School enrolls one class per year. Each class begins in August. Applications are accepted from Oct. 1 through July 1. Admission to Wayne Law is selective, and there is a great deal of competition to be a member of an entering class.

The Admissions Office uses rolling admissions. As applications become complete they are evaluated for a decision. Applicants are strongly encouraged to apply early as the class fills rapidly as the deadline approaches.

An applicant for admission to the J.D. program must have a bachelor's degree from an accredited college or university or pursuant to an articulation agreement with an undergraduate institution that grants the degree upon successful completion of all required first year courses in the Law School. A final official transcript must be sent to the Law School before enrolling.

Each applicant also must take the Law School Admission Test (LSAT) and register with the Law School Data Assembly Service (LSDAS). The Law School requires that students educated in a foreign country submit their transcripts through the Law School Admission Council J.D. Credential Assembly Service. Applicants who completed any post-secondary work outside of the United States, its territories or Canada must use this service for the evaluation of foreign transcripts. The one exception to this requirement is any foreign work completed through a study abroad, consortium or exchange program sponsored by a U.S. or Canadian institution where the work is clearly indicated as such on the home campus transcript.

Applicants must take the LSAT no later than June of the year in which they intend to enroll. The Admissions Office will accept LSAT test scores that are up to five years old.

Admissions decisions

At Wayne Law, we use a holistic approach in evaluating applicants. Every application is thoroughly read by an admissions professional and members of the Faculty Admissions Committee. The Admissions Committee considers positively the following factors in reaching admissions decisions:

1. an applicant's academic achievement and potential, as shown by his/her LSAT score and Grade Point Average;
2. an applicant's demonstrated capacity to overcome or persevere against:
 - a. socioeconomic disadvantage, whether the applicant would be the first generation of his/her family to attend or graduate from college or professional program and whether he/she was employed or raising a family while attending school; or
 - b. substantial obstacles such as family or personal adversity, attendance at an under-performing school (elementary, middle or high school), and prejudice or discrimination;
3. any special circumstances suggesting that the applicant's LSAT score or academic record doesn't accurately reflect his/her current academic potential, such as the age of the applicant's GPA; a marked improvement in grades shown in the later years of college; or other special circumstances the candidate conveys in his or her personal statement or elsewhere in the application; and
4. other factors that foster a diverse and engaged law school environment, such as geographic residence (including in the city

of Detroit), work and volunteer experience, leadership qualities, commitment to community and public service, communication skills, multilingual proficiency, and experience of life in a foreign country or on a Native American tribal reservation.

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 to the assistant dean of admissions prior to registration setting forth the personal circumstance justifying the request for admission as a reduced load student.

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 then will be reviewed by the Admissions Committee. In the past, applicants who have successfully petitioned for reconsideration are those who have submitted updated information, such as improved test scores or additional grades.

Application procedures (J.D. applicants)

Admission to the J.D. program at Wayne Law is highly competitive. Wayne Law receives a large number of applications. Every application receives careful, individualized attention by the Wayne Law Admissions Office and our faculty Admissions Committee. A variety of factors are taken into consideration. Typically, only about 40 percent of applicants are offered admission.

Note: Wayne Law will accept the June 2016 LSAT score for the class entering in fall 2016.

First-year applicants

Application requirements for those seeking admission as first-year students are as follows:

1. Complete the online application form (<https://os.lisac.org/Release/Logon/Access.aspx>) with an electronic signature. The deadline for application is July 1. To receive priority consideration for scholarships, your application must be complete by Jan. 15.
2. Include with your application a brief personal statement, written by you in your own words. You can use this statement to convey to the Admissions Committee any experiences, interests, unusual circumstances or other information you believe may help the committee evaluate your potential for success at the Law School. Because we don't conduct individual interviews, your personal statement is the best way for you to tell us what you would most like us to know about you.
3. Have the Law School Admission Council submit a copy of your JD-CAS report (which includes copies of transcripts from all U.S. undergraduate schools) to the Law School. If you earned your bachelor's (or equivalent) degree from a college or university outside the United States, its territories or Canada, you must use a credential evaluation service. We prefer use of the JD-CAS, but we also will accept evaluations from organizations that are members of the

National Association of Credential Evaluation Services or Association of International Credentials Evaluators.

4. Arrange for the submission of two letters of recommendation. The letters should be from individuals such as college professors or others who can comment on your intellectual abilities and academic performance. If you have been out of school for a number of years, you may submit letters of recommendation from an employer. Letters of recommendation should be sent directly to the Law School Admission Council. Additionally, two Law School Admission Council evaluations are recommended but not required.

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. 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 ready for review when the Admissions Office has received all of the following:

1. The Law School application with an electronic signature for online applications or a paper application that is signed and dated.
2. An official transcript sent directly from the applicant's law school with all grades posted for the academic year.
3. A letter of good standing from the applicant's law school.
4. A JD-CAS report.

Guest student applicants for fall and/or winter terms

The transfer applicant requirements and procedures outlined above apply to a law student who wishes to enroll at Wayne Law for one or two terms as a guest student. Application deadline is July 1 for fall term and Nov. 1 for winter term.

In the case of a guest student, the letter of good standing also should include a statement granting permission for the applicant to attend Wayne Law for the semester(s) indicated and an agreement to accept credits earned at the Law School and any other requirements or limitations from the "home" law school.

The application deadline for fall is July 1. The application deadline for winter is Nov. 1.

Guest student for summer term

A student from another ABA-accredited law school may take one or two summer courses at Wayne Law provided the student is in good standing and receives permission from his or her "home" law school. Application should be made by submitting the Law School summer guest application form. Application deadline is May 15 for summer term.

Law (LL.M. Program)

Lawyers who already have received a J.D. degree from an accredited U.S. law school or an equivalent degree in another country and satisfy Wayne Law's LL.M. admissions criteria are eligible to undertake advanced legal studies for a master of laws (LL.M.) degree at Wayne Law.

Majors

Domestic and international students seeking specialized legal knowledge and skills may undertake an LL.M. degree with a major in one of the following substantive law areas:

- Corporate and finance law
- Labor and employment law
- Taxation

- U.S. law (open to international students who seek a general understanding of the U.S. legal system to enhance their home country practice)

- July 1 - fall term

Applicants from abroad are encouraged to apply substantially earlier to allow sufficient time to obtain the necessary visa and other documents.

The requirements and expectations for the LL.M. degree are set forth in the Master of Laws Academic Regulations ([law.wayne.edu/llmregs](http://www.law.wayne.edu/llmregs) (<http://www.law.wayne.edu/llmregs>)), which should be read in conjunction with the Wayne Law Academic Regulations ([law.wayne.edu/academicregs](http://www.law.wayne.edu/academicregs) (<http://www.law.wayne.edu/academicregs>)).

The LL.M. curriculum includes day and evening courses taught by nationally recognized faculty and expert practitioners. Each LL.M. major requires that a student take specified core courses and allows a student to select electives from a large list of law courses approved for credit toward that particular major. In addition, LL.M. students majoring in one of the substantive law areas may select electives from among approved courses for their majors in other university departments or schools, such as business, finance and industrial relations. (Certain restrictions apply if equivalent courses are offered in the Law School in the same academic year.) LL.M. students other than those majoring in U.S. law also must complete a master's thesis, written and researched in collaboration with a faculty adviser, as the capstone of their studies.

Courses are offered during three terms with the broadest offerings in the fall semester (beginning in late August) and winter semester (beginning in January). Additional courses are offered in the summer/ spring term (beginning in mid-May). Course scheduling changes from year to year depending on faculty teaching commitments, but tentative schedules for two-year cycles are available on the website so that students can plan their pathways to the degree. Students should consult with the LL.M. program director and faculty in their major areas to determine reasonable schedules of courses.

Although students may initiate their LL.M. degree studies in the winter semester, students are encouraged to enroll in the fall semester so they can participate in the fall orientation program for new students (generally offered in the week prior to the commencement of the fall semester) and register for core courses (such as Taxation for tax majors, Corporations for corporate and finance law majors or Survey of U.S. Law for U.S. law majors) that may not be offered in the winter semester and are often prerequisites for more advanced study.

LL.M. students are permitted to take up to six years to complete their degree. Full-time students usually can complete their LL.M. coursework in one year (often including work on the master's thesis over the summer), while part-time study generally requires two or more years.

Law Courses

LEX 6100 Civil Procedure A Cr. 3

Structure of the judicial system in the United States and the process of civil litigation from the commencement of an action through appeal. Subjects considered include jurisdiction, the relationship between state and federal courts, pleading, discovery and other pre-trial devices, trial and appellate review. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6101 Civil Procedure B Cr. 3

Structure of the judicial system in the United States and the process of civil litigation from the commencement of an action through appeal. Continuation of LEX 6100. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Admission requirements

The basic requirement for admission to the LL.M. program is a demonstration of sufficient ability to be a successful student. This ability may be demonstrated by a record that includes the following:

1. A J.D. (or LL.B.) degree from a law school that is approved by the American Bar Association and is a member of the Association of American Law Schools.
2. A J.D. (or LL.B.) degree from a law school that is approved by the American Bar Association but is not a member of the Association of American Law Schools, but only if the applicant has compiled a distinguished academic record at that law school.
3. The equivalent of a J.D. or LL.B. degree from a law school outside the United States at which the applicant compiled a distinguished academic record. Applicants must receive a score of 600 or above on the Test of English as a Foreign Language (TOEFL), or 250 or above on the computer-based TOEFL, or 100 or above on the internet-based TOEFL, or 7.0 or above on the International English Language Testing System (IELTS) exam, although a waiver of this requirement may be granted based on other evidence of English language competency. Individuals are ineligible for admission to the United States Law LL.M. Program if they have received a J.D. degree from a U.S. law school.
4. In extraordinary cases, the Graduate Committee, on the recommendation of the director of graduate studies, may admit to the LL.M. degree program an applicant who has graduated from a United States law school that is not approved by the American Bar Association if the applicant has been admitted to practice without limitation in one of the states of the United States and has clearly demonstrated by experience, academic performance and other qualifications the ability to perform well in the LL.M. program. The director of graduate studies shall sign and place in the student's file a statement of the considerations that led to the decision to admit the applicant.

Each state applies its own criteria for allowing applicants to take the bar examination and for admitting attorneys to practice law. Completion of the LL.M. degree does not qualify a student to apply for permission to take the bar exam in every state. Lawyers from other countries seeking to practice law in the United States should obtain information regarding the requirements for admission to the bar in the state(s) in which they wish to practice.

How to apply

Admission to this program is contingent upon admission to the Graduate School (p. 17).

Among the required documents are "official transcripts." Official transcripts are those issued directly by your previous institution. They usually include a school imprint, seal, or original signature and stamp of the registrar or senior school official. Transcripts cannot be transmitted via the applicant and must be sent by the institution to Wayne State University and cannot read "issued to student." Electronic transcripts will be accepted if they are delivered securely from the registrar of the issuing institution directly to the Office of Graduate Admissions.

Specific questions about the program may be directed to the director of graduate studies (llmprogram@wayne.edu).

LL.M. application deadlines are:

- Nov. 1 - winter term
- March 15 - spring/summer term

LEX 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6201 Contracts B Cr. 3

General principles of the law of contracts; definitions of contract; illegality, mistake, frustration, the parol evidence rule; performance and breach; rescission; repudiation and discharge. Remedies, including damages, specific performance, injunction and restitution. All topics considered from viewpoints of both common law and statute. Continuation of LEX 6200. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6300 Criminal Law Cr. 3

General doctrines of criminal liability as they relate to the moral and social problems of crime; definitions of principal crimes and defenses to criminal prosecution, both common law and statutory; limitations on the use of criminal sanctions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6400 Legal Research and Writing Cr. 2

Analysis of legal problems and the use of legal materials, through discussion, written assignments, and personal conferences. Preparation of 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6500 Property Cr. 4

Basic course in real property, which will include selected materials from some of the following areas: historical introduction to real property; personal property transfers by gift, finding, adverse possession; modern law of possessory estates, including non-freehold estates, and landlord and tenant relationships; concurrent estates; restraints upon the use of land; conveyancing and effects of the Recording Acts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6600 Torts Cr. 4

Legal principles underlying wrongs not based on contract, arising from intentional or negligent conduct and including strict liability; the nature of particular wrongs, including injuries to the person, to reputation, to real or personal property, and to interference with business or family relations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6700 Constitutional Law I Cr. 3

Problems arising under the Constitution of the United States, with particular attention to the nature of judicial review in constitutional cases and to the role of the judiciary in umpiring the federal system. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6800 Professional Responsibility and the Legal Profession Cr. 2

Conflicts of interest; the attorney's standard of care, fiduciary duty, the organization of bar associations, the attorney's duty to the court and the community; the attorney's responsibilities in trial, and in unilateral actions and negotiations. The duty of disclosure of adverse data, the development of group legal services, and of legal services to the poor, and the responsibility of the Bar in these areas. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6900 The Regulatory State Cr. 3

Introduction to statutes and agency decisions and the central role they play in modern government. Nature of statutes and agency regulations, how they are generated, and how they are interpreted and applied. Justifications for modern regulation, the modern administrative state, the incentives that influence the behavior of the various actors, and the legal rules that help structure the relationships among legislatures, agencies and courts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7001 Accounting for Lawyers Cr. 2

Basic concepts of bookkeeping and generally-accepted accounting principles; background to help read and interpret financial statements; auditor's role and accounting issues that arise in business planning, in litigation, and in managing financial investments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7006 Administrative Law Cr. 3-4

Functions and behavior of administrative agencies; constitutional and statutory constraints on agency operation. Government formulating and enforcing policy, administering of public benefit programs, and awarding of licenses. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7009 Advanced Bankruptcy Cr. 3

Students will become familiar with the chapter 11 business reorganization process. By reviewing mock bankruptcy schedules, and cash collateral, relief from stay, and chapter 11 plan and disclosure statement proceedings, the students will develop the necessary substantive knowledge and hone their negotiation and trial advocacy skills. A problem-oriented approach will be used, with students and instructors participating in resolving situations commonly encountered in a business bankruptcy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7011 Agency and Partnership Cr. 2-3

The relationship of principal and agent; the rights, duties, powers, and fiduciary responsibilities associated with acting for the benefit of others. The legal principles associated with conducting business in the partnership form under the Uniform Partnership Act. When offered in a three-credit version, class will also include extensive treatment of Limited Liability Companies and Limited Liability Partnerships and other alternative forms of unincorporated business associations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7014 Taxation of Corporations: Acquisitions and Restructuring Cr. 4

Satisfies the professional skills requirement. Explores the tax rules for corporate stock or asset acquisitions and restructurings (including reorgs, spins and loss carryovers), and S corporations or consolidated returns through the lens of a simulated firm tax group working on a series of client projects (using an actor as client). Each student will work on at least two team projects during the semester, preparing written and oral presentations for, and briefing the client on, issues related to the team project topic. Team projects include: prepping a client for and negotiating an acquisition, drafting a private letter ruling request, preparing an internal memorandum outlining the pros and cons of restructuring choices, researching and writing a tax opinion letter, and outlining advantages of various entity choices for future transactions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7015 Advanced Torts Cr. 2

Focus on torts not involving physical injury, such as misrepresentation, defamation, invasion of privacy, interference with business relations, and misuse of legal procedure. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7016 Alternative Dispute Resolution Cr. 2

Forms of non-trial dispute resolution: arbitration, mediation, and negotiation—their various permutations and substantive applications. Factors affecting choice between dispute resolution processes, differences in design and structure, relative costs, quality of participant performance, accountability for results, privacy of proceedings, role of legal norms and lawyers, due process considerations, availability of judicial review; tactics and strategies employed in arbitration, mediation and negotiation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7021 American Indian Law Cr. 3

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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7023 Animal Law Cr. 3

Animal law encompasses human-animal interactions and evaluation of competing interests within the context of traditional areas of law (e.g., veterinary malpractice, expansion of anti-cruelty statutes to include farm animals, damage for death of / injury to companion animals, disputes over custody of companion animals in divorce or separation, landlord-tenant housing disputes, the inclusion of animals in wills and trusts, and constitutional issues such as standing). It also encompasses the current legal status of animals as living property and explores whether this status is antiquated and needs re-evaluation to reflect societal beliefs and values. Course will consider these traditional areas of law, groundbreaking laws enacted by other countries, as well as theories for the expansion of consideration and rights.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7026 Antitrust Cr. 2-4

Government control of trade practices and industrial market structures which inhibit the competitive process; monopoly, oligopoly, mergers, cartel practices, distribution arrangements, resale price control, franchising patent licensing, foreign commerce and price discrimination under the Sherman, Clayton, Federal Trade Commission, and Robinson-Patman Acts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7045 Banking Law Cr. 2

Legal environment of the banking industry. Topics include: history and scope of banking in the United States, statutory requirements for chartering and operating banks, regulatory oversight at the Federal and State level, commercial and consumer lending, deposit insurance, lender liability, bank failures, and recent developments in banking regulation and legislation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7051 Bankruptcy and Creditors' Rights Cr. 3

Problems arising when debtors are in financial difficulty, including the principal state remedies of unsecured creditors such as attachment, garnishment, and enforcement of judgments; Chapter 7 bankruptcy liquidations; Chapter 13 wage-earner plans; and Chapter 11 reorganizations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7058 Bioethics and the Law Cr. 3

Role of law in shaping, analyzing and resolving conflicts that arise in the interplay between medicine, biotechnology, ethics, social history, and cultural evolution. Topics include reproductive rights and genetic technologies, maternal fetal decision making, medical decision making, definitions of death, death and dying decisions, regulation of research on humans, interdisciplinary decision making, and access to health care. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7060 Business Planning Cr. 4

Problems involving common business transactions, including choice of entity to conduct business; organization, financing, and operation of a corporation; restructuring of business enterprises. Corporate, tax, securities law, and financial matters; role of business lawyer in counseling and planning business transactions. Relationship between the corporation and its shareholders. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7061 Business Planning: A Transactional Approach Cr. 4-8

Organizational problems for the closely-held and the public corporation; operational problems such as stock distributions, issuance of new securities, constructive dividend problems, and stock redemptions; corporate acquisitions, other reorganizations, contested take-overs, and liquidation and termination problems. Credit only on completion of two terms. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7075 Child, Family, and State Cr. 3

Aspects of children in legal system. Legal relationship between children, their parents, and government (federal, state, local, and tribal); rights of these parties and relationships between them. Education, medical care, children's rights, concept of legal parenthood, parental rights (and termination thereof), adoption, juvenile justice process. Concentration on constitutional and policy analysis as opposed to examination of rules and regulations in the different areas. Students graded on class participation, several short written assignments, and take-home final examination. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7118 Complex Litigation Cr. 2

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-party litigation, multi-district litigation, and mass tort cases. Examination of theory and practice of class actions and complex litigation. Class participation, production of filing-quality pleadings, and successful completion of a final exam are expected. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7121 Conflict of Laws Cr. 3

Principles, rules and methods thought to underlie the resolution of multi-state problems. Jurisdiction and enforcement of judgments of other states. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7126 Constitutional Law II Cr. 4

Individual rights under the Constitution of the United States. Freedom of speech, religious freedom and equal protection. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: LEX 7829

LEX 7127 Constitutional Litigation Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7128 Consumer Law Cr. 2-3

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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7136 Copyright Law Cr. 3

Law of copyright and related doctrines protecting literary, musical and artistic works. Nature of rights and kinds of works protected, doctrine of fair use, pre-emption problems, and problems posed by new technologies. Emphasis on 1976 Copyright Act and its relation to issues such as home videotaping, photocopying and non-profit performance of protected works. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7141 Corporate Finance Cr. 3

Economic and legal problems arising in connection with financing decisions of publicly-held corporations, including valuation of the enterprise and its securities, determination of securities structure and dividend policy, capital structure (including problems relating to debt), and acquisition strategies. Federal securities regulations and selected topics. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7156 Corporations Cr. 2-4

Relationships between owners and directors of a corporate enterprise; different types of stock ownership and the corresponding rights in profits and control; consolidation and merger; distinctive features of the closed corporation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7160 Criminal Pretrial Advocacy Cr. 3

The court rules, statutes and Constitutional principles implicated in pre-trial criminal advocacy. Topics include arraignment, discovery, pre-preliminary examination, preliminary examination, motion practice, and pleas. Structural rules and principles of the process; the practical application of those rules and principles. Students participate in mock arguments, client meetings, and witness interviews, and draft the documents that would be filed in a criminal case. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7161 Criminal Procedure: Investigation Cr. 3

Constitutional requirements for arrests, searches, seizures, electronic surveillance, and interrogations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7166 Criminal Procedure: Adjudication Cr. 3

Operation of the criminal justice system from the defendant's first appearance in the court through the trial, and to post-conviction remedies, including a study of bail, the preliminary hearing, the grand jury, voir dire, discovery, double jeopardy, joinder, and habeas corpus. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7172 Developing the Commercial Real Estate Project Cr. 3

Real estate development: laws and requirements affecting the development of commercial properties, including the law of contracts; real estate interests, such as mortgages, easements and encumbrances, zoning laws, environmental laws, building codes and requirements and other regulatory laws. Topics include: purchase and sale contracts, title and survey matters, due diligence investigations, closing processes, construction, financing, and leasing. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7201 Education Law Cr. 3

Survey of education law with emphasis on public education. Historical development of education law in the U.S. as well as topics of current interest: tenure, academic freedom, school discipline, school financing, home-based schooling, state regulation of private schools, church-state relationships, and desegregation in public education. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7205 Employee Benefits Law Cr. 3

Survey course provides students with a strong grounding in the major laws affecting employment-based benefits plans, including the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Code. Retirement plans (including traditional defined benefit plans and common types of defined contribution plans such as 401 (k) plans). and welfare benefit plans (including health and life insurances and disability plans). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7216 Employment Discrimination Cr. 2-3

Federal constitutional and statutory guarantees of freedom from invidious discrimination in employment. Thirteenth and Fourteenth Amendments, Title VII of the Civil Rights Act of 1964, the Reconstruction Civil Rights Acts, 42 U.S.C. 1881, et seq., the Equal Pay Act of 1963, and the Age Discrimination in Employment Act of 1967. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7221 Employment Law Cr. 2-3

Legal rights and responsibilities of employees (excluding rights provided by anti-discrimination laws and the NLRA); statutory and common-law limitations on the employer's right to discharge; protection of employee privacy and reputation; laws governing wages and hours, occupational safety, unemployment compensation, workers' compensation, and employee benefits. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7226 Entertainment Law Cr. 2-3

Legal and business issues in the entertainment industries, including those related to sound recordings, music publishing, literary publishing, films, television, the Internet and other new media. Readings and discussions: representing talent, drafting and negotiating contracts, remedies for breaches, and rights of publicity. How the entertainment industries and their economics work. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7228 Energy Law Cr. 3

Introduction to energy law and regulation in the United States. Principles of rate regulation of public utilities and the division of jurisdiction between federal and state governments. Emerging trends such as promotion of energy efficiency and renewable energy. (This course does not cover traditional oil and gas law.) Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7231 Environmental Law Cr. 2-3

Environmental law in common-law, statutes, constitutional issues, administrative and international law. Coherent legal analysis of environmental problems and active legal remedies, rather than specialized instruction in pollution controls and the like. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7236 Equitable Remedies Cr. 2-3

Survey of the equitable remedies available for the vindication of substantive rights, which includes injunctive and restitutionary relief as well as the general treatment of equitable relief in contract, tort and criminal actions. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7241 Estate, Gift and Inheritance Taxation Cr. 2

Federal and state transfer taxes and income taxation of fiduciaries and beneficiaries. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7266 Evidence Cr. 2-4

General principles relating to the proof of questions of fact in civil and criminal trials, including competency, relevancy, and materiality of evidence; judicial notice, presumptions; burden of proof; competency of witnesses, rules relating to examination and cross-examination of witnesses; weight and sufficiency of evidence. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7301 Family Law Cr. 2-3

Entry into marriage; legal treatment of couples in marital and non-marital relationships; divorce, including custody, alimony and property distribution, and the role of the attorney; procreation; illegitimacy; rights and responsibilities of children and parents with respect to each other and to the state; child abuse and neglect; and adoption. When offered for two credits, considerably less time is devoted to children's issues. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7306 Federal Courts and the Federal System Cr. 2-3

Interrelationship of state and federal law in our legal system from the point of view of the federal courts and the Congress. Emphasis on the politics, history, and philosophy of federalism, rather than on procedures. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7311 Taxation of Partnerships Cr. 2-3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7326 Foreign Direct Investment Cr. 3

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 the protection of FDI. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7353 Health Care Organizations and Finance Cr. 3

Legal responses to problems of health care costs, access and financing from both public and private perspectives. Registration of insurance and managed care, developments in federal ERISA preemption, changing business structures, and antitrust enforcement. Medicare and Medicaid financing, rules prohibiting self-referrals, and standards policing fraud and abuse. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7354 Health Care Quality, Licensing and Liability Cr. 3

Legal responses to problems of health care quality and medical errors. State licensing of health care professionals and institutions, self-regulation, and tort liability for physicians, hospitals and managed care organizations. Basic introduction to health care institutions, the particulars of malpractice litigation, and proposals for tort reform. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7360 Health Policy: The Firm, the Market and the Law Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7371 Immigration and Nationality Law Cr. 2-3

Immigration, its history and development; entry into the United States, and alien status and adjustment to status; deportation and relief from deportation; exclusion and relief from exclusion; nationality and citizenship. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7381 Insurance Law Cr. 2

General principles, including indemnity, subrogation, reinsurance, insurable interest and classification of risks such as personal business and legal liability. Michigan insurance law and "no fault" legislation examined; contractual rights and liabilities of the insurer, insured, and third party beneficiaries. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7384 International Commercial Arbitration Cr. 3

Course follows the life cycle of an international commercial arbitration, including: drafting and enforcing arbitration agreements; appointment and challenge of arbitrators; conduct of the proceedings; drafting of awards; review and enforcement of awards by courts at the seat of arbitration and beyond. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7401 International Aspects of US Taxation Cr. 2-3

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7404 International Business Transactions Cr. 3

Practical legal problems connected with doing business abroad; counseling on foreign law. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7406 International Finance: Transactions, Regulation, and Policy Cr. 3

Legal problems associated with flow of capital across national borders. Topics include international financial transactions, regulation of international capital markets, regulation of international banking and financial services, emerging market debt crisis, role of International Monetary Fund, reform of international financial system. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7407 International Intellectual Property Law Cr. 3

Addresses the legal issues surrounding the protection of intellectual property rights in a globalized commercial environment. The course centers on the study of the principal multilateral treaties that protect intellectual property rights: the Berne Convention on copyrights, the Paris Convention on trademarks and patents, and the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS"). The course also looks at the intellectual property component of the North American Free Trade Agreement, and a variety of legislative materials from the European Union. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7408 International Law Cr. 3

Basic legal concepts applied by international tribunals and courts of the United States to the relations between independent nations. The nature and sources of international law; the use of treaties; international organizations; and practices respecting recognition, territory, nationality and jurisdiction. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7409 International Litigation Cr. 3

Issues arising in civil cases in American courts in which international parties, evidence, and issues are present. Subjects include personal jurisdiction, service of process abroad, conducting discovery abroad, suing foreign sovereigns and governmental officials, forum non conveniens and international arbitration. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7410 International Organizations and Public Health Cr. 3

Course has two objectives: first, to give students a working understanding of the structure, function, and mission of the international organizations that increasingly impact modern life: the WTO, EHO, World Bank, IMF, and UN; second, to explore the effects of globalization on public health. Topics include: WHO control of infectious diseases such as SARS, impact of the WTO on pharmaceutical pricing of AIDS drugs and genetically-modified foods, international conventions for tobacco control, and influence of World Bank and IMF privatization requirements on health sector reform in developing countries. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate, Law or Medical level students; enrollment limited to students in the Law School or School of Medicine.

LEX 7411 International Protection of Human Rights Cr. 2-3

The main international and regional legal instruments and procedures for the protection of human rights. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7413 International Prosecution of State Actors Cr. 3

Legal and political aspects of new processes by which one-time state officials (such as former Yugoslav President Slobodan Milosevic, former Chilean dictator Augusto Pinochet, and former East German leader Egon Krenz) and their followers have been subjected to prosecution in international and foreign legal systems. Basic elements of transnational criminal law; controversial questions of principle and policy such as United States opposition to the new International Criminal Court; concerns about retroactive punishment; respect for amnesties that have contributed to ending civil conflicts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7414 International Legal Research Cr. 1

Fundamentals of research in public international law. In connection with Jessup International Law Moot Court Competition, students review structure of international legal institutions, nature of the materials they produce, and the unique way these materials are indexed and cataloged. Focus on how these materials can best be used in legal advocacy; emphasis on effective writing and oral argument. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 7418 International Trade Law Cr. 3

Regulation of international trade relations. Focus on Law of the World Trade Organization (WTO) and its interaction with domestic regulation of international commerce. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7419 Interviewing and Counseling Cr. 2-3

This course introduces students to interviewing and counseling theory, and helps students develop skills needed to effectively and efficiently interview and counsel clients in both litigation and transactional matters. Topics addressed and skills developed include active listening, phrasing and sequencing questions, eliciting timelines, probing for details, clarifying objectives, identifying options and discussing their consequences, and helping clients make final decisions. The course makes extensive use of role-playing exercises. Each student conducts a full-length simulated interview at mid-semester, and a full-length simulated counseling session towards the end of the semester. When offered for three credits, the course will include a forty-hour fieldwork component in which each student will interview and counsel actual clients who are seeking free legal help from one of the Law School's clinics or from a faculty-approved public interest externship field placement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7422 Islamic Law Cr. 3

This course will survey the universe of Islamic law from the vantage point of a beginner to the field. The readings and class discussions will broadly cover the following: (1) classical Islamic jurisprudential theory, (2) substantive aspects of family and criminal law, (3) the intersection of Islamic law and the American legal system, and (4) the place of American-Muslims in the framework of American constitutionalism. Because law - of any variety - does not operate in a vacuum, discussions will proceed with reflection on prevailing sociopolitical realities such as global terrorism, jihadist movements, Islamophobia, misogyny, and racism. The student will also be asked to draw from the offerings of philosophy, critical race theory, postcolonial studies, security studies, and feminism. The aim is for course participants to develop a more textured understanding of Islamic law and to be better positioned to understand the debates surrounding its relevance and practice. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7424 Introduction to the Legal System of the United States Cr. 2-3

General introduction to the institutions and processes involved in lawmaking and legal interpretation in the United States, with a focus on lawmaking at the federal level. Topics include: federal legislative process, precedent and the common-law method, federal administrative rule-making, separation of powers, and judicial review. Sources of law produced by these processes and the development of research strategies with respect to these sources. Course is also designed to provide foreign LL.M students (all of whom write a Master's Essay to complete the LL.M. program) with an overview of the principal forms of legal scholarship in the American academy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7426 Jurisprudence Cr. 2-3

Analysis of important legal notions such as law, sanction, rule, and sovereignty; relations between law and morals as seen particularly in the development of natural law and legal positivism and in the development of the notion of legal responsibility. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7435 Juvenile Delinquency Cr. 2

Introduction to the juvenile justice system. Topics include: juvenile court jurisdiction over delinquents and status offenders; pretrial criminal procedure in the juvenile justice context; screening and diversion; pretrial detention; waiver of juvenile court jurisdiction; procedural rights at trial; dispositional decisions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7495 Labor Arbitration Cr. 2

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7501 Labor Law Cr. 2-4

Legislative, administrative and judicial regulation of labor relations. The scope of national labor legislation; the protection of the rights of self-organization and the designation of bargaining agents; the negotiation and administration of the collective agreement; the legality of strikes, picketing and boycotts; employer interference with concerted activities; and the relations between unions and their members. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7506 Labor Law in the Public Sector Cr. 2

State (and some federal) regulation of labor relations in the public sector. Establishment of representative status, negotiation and administration of the collective agreement, strikes and impasse resolutions. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7511 Land Use Cr. 2-3

Allocation of land use in the urban environment by both private agreement and governmental order. Problems involved in the development and effectuation of community planning; goals by means of conservation, clearance, and renewal; zoning, variances and exceptions; housing code enforcement, subdivision control, eminent domain; relocation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7514 Law, Authority, and Resistance Cr. 3

This course addresses, in both theoretical and practical terms, the relationship between legal and political obligation: When, if ever, do individuals have a moral obligation to obey the law because it is the law? What count as valid justifications of civil disobedience, conscientious refusal, or insurrection? When can governmental authority justifiably depart from "the rule of law"? When can individuals be held criminally accountable for egregious acts committed under unjust prior regimes? The course combines classics of the history of political thought with contemporary theoretical writings and contemporary discussions of topical questions (e.g., jury nullification, emergency measures, transitional justice). Particular attention will be paid to the special obligations of lawyers who are asked to validate immoral practices (e.g., "enhanced interrogation methods" in the Global War on Terrorism). Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7516 Law of Elections and Political Organizations Cr. 2-3

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7517 Law, Policy and International Development Cr. 3

Explores various law-based strategies for achieving economic and political development in poor countries. One influential school of thought claims that capitalism will not flourish in developing nations until there is a long-term, national commitment to reform property laws. Other scholars and development specialists insist that instituting the rule of law is the linchpin to attaining international development. Yet others insist that all law reform efforts are pointless unless access-to-justice issues are first addressed. This course is designed to investigate these claims and allow each student to come to her or his own conclusions about how law is most effectively used as a strategy for promoting political and economic development. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7518 Law of Armed Conflict Cr. 3

History and current state of the law governing recourse to force (*jus ad bellum*) and the law governing the application of force (*jus in bello*). Contemporary *jus ad bellum* topics include: prohibition of the use of force in international relations, self-defense, unilateral intervention in internal conflicts and humanitarian crises, as well as collective action relating to security and humanitarian crises. Contemporary *jus in bello* topics include: legal obligations relating to targeting, selection of weapons, status and treatment of prisoners, and protection of civilians during hostilities and occupation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7520 Advanced Legal Writing: Legal Drafting Cr. 3

Development of transactional drafting skills; focus on writing techniques most often assigned to summer interns and first and second year associates. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7536 Appellate Advocacy Cr. 3

Research and analysis of complex legal problems. Class discussion on advanced research, development of strategy, and organization and writing as an advocate. Students learn appellate procedure and write an appellate brief. May not be taken on pass/no credit basis. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7541 Legislation Cr. 3

The legislative process and its use as an instrument of change; legislative drafting revision, interpretation and implementation. The appropriations process; role of and control of lobbying; operation of the legislative process and its effect on policy formulation; conduct of Congressional investigations and effects of separation of powers doctrines. The lawyer and the development and implementation of legislation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7581 Local Government Law Cr. 2

Law as an instrument for governing urban areas. Distribution of decision-making power between private and public persons, between state and local governments and among various local governments. Local finance, decentralization, annexation and municipal incorporation. Exploration of possible reform by means of metropolitan government or federal assistance. The lawyer's role in formulating governmental policy in major urban complexes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7590 Maastricht Exchange Program Cr. 1-4

Students take courses offered in the Maastricht Exchange Program. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7603 Mergers and Acquisitions Cr. 2-3

Mechanics of an acquisition, including: (1) state corporate codes relevant to acquisitions, dissenting shareholder remedies, listing requirements, and federal security law affecting the mechanics (proxy, tender offers, public offerings); (2) successor liability, transfers of assets; (3) acquisition documents (confidentiality agreements, letters of intent, basic agreements, closing); (4) legal duties of board of directors and dominant shareholders (decision to sell or acquire, conflicts of interest, attempts to block takeovers, shareholder value); (5) disclosure requirements of federal and state securities law; (6) accounting and tax issues (definition of tax-free reorganization, accounting for mergers and acquisitions). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7604 Mock Trial Workshop Cr. 2

This course introduces students to basic evidence concepts (e.g. relevance, competency, impeachment, hearsay, authentication) and helps student develop basic trial advocacy skills (e.g. how to develop persuasive case theories and themes, how to deliver opening statements and closing arguments, how to examine and cross-examine witnesses, how to lay a proper evidentiary foundation for testimony, how to introduce and use demonstrative evidence, how to refresh a witness's recollection, how to impeach a witness by using the witness's prior statements, how to make and respond to objections). The course consists of two skill-building workshops: a 4-day workshop offered during the week before upper-level classes begin in the fall, and a 2-day workshop offered over a weekend during the fall semester. The teaching format will include lecture, discussion of problems, demonstration and discussion of skills, and extensive simulation work in small groups. The course is graded on an Honors-Pass-Low Pass-No Credit basis. Students who have taken Trial Advocacy (LEX 7836) are not eligible to take this course, and vice versa. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

Equivalent: LEX 7836

LEX 7605 Multistate Taxation in the Digital Age Cr. 3

Sale and use taxes and corporate and personal income taxes imposed by state and other sub-national governments, including Indian tribes. Constitutional limits on cross-border taxation under the Due Process Clause and the Commerce Clause. Methods for apportioning income among jurisdictions, from theoretical and practical perspectives. Special income tax and sales tax issues arising from electronic commerce. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7616 Negotiation Cr. 2,3

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. Taken for three credits this course also addresses contract drafting, collaborative lawyering, use of mediation in negotiation, multicultural negotiation, the law of settlement, enhanced processing of simulations, and contract drafting exercises. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7631 No-Fault Insurance Law Cr. 2

Comprehensive review of Michigan's No-Fault Automobile Insurance Law, which governs all motor vehicle accidents in the State. Topics include: questions of coverage, medical and work loss benefits, coordination of benefits, exclusions, priorities, subrogation, and claims procedures. Negligence claims under the No-Fault Law also reviewed. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7646 Patent Application Preparation Cr. 2-3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7651 Patent Enforcement Cr. 3

Unique aspects of patent litigation. Policy issues; practice considerations in enforcing patents. Issues in approaching a patent infringement suit (who can file; when and where to file). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7656 Patent Law Cr. 3

Substantive patent and related trade secret law. Emphasis on nature of patent right; scope of coverage of patent system; issues of validity, infringements, inequitable conduct, patent-antitrust. Special issues relating to software, living organisms, and chemistry. Technical background not required. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7657 Patent Prosecution Cr. 2-3

Art of writing patent applications; aspects of practicing before the Patent and Trademark Office (PTO). Rules and techniques for investigating what is legally considered the background of the invention (prior art). Introduction to basic claim drafting concepts, techniques for writing a written description (or specification) of an invention. Effective response to PTO actions as defined by the Manual of Patent Examining Procedure (MPEP) and by the relevant case law. Inter partes post-grant proceedings and derivation proceedings available under the new America Invents Act. Ethics and licensing will be briefly covered. Course provides a good foundation for students who wish to take and pass the patent bar exam to become registered to practice before the PTO. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7659 Political Theory of Public Law Cr. 3

Legal restraints on exercise of public power as conceived in works of early modern theorists (e.g., Machiavelli, Locke, Montesquieu, and Madison), and as applied in constitutional arrangements that have emerged in a range of historical settings. Topics include: role of law in totalitarian political systems; emergency rule; comparative approaches to judicial review. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: PS 7580

LEX 7660 Practicum in Dispute Resolution Cr. 3

Training in facilitative mediation with opportunity to practice skills in a variety of settings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

Course Material Fees: \$225

Equivalent: DR 7310

LEX 7661 Commercial Systems Cr. 2

Capstone course for contracts/commercial curriculum; creation, transfer and enforcement of obligations, mostly in payment, transport and storage settings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7666 Pretrial Advocacy Cr. 3

Adversary strategy and practice skills in the pretrial stages of litigation. Preparation of pleadings, interrogatories, requests for admission and document production requests. Students negotiate settlement of disputes, draft and argue motions, and take and defend depositions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7669 Privacy Law Cr. 2-3

Covers the law of information privacy. Addresses the law and policy applying to the collection, use and disclosure of personal information. Relevant law includes state laws founded in tort and property, federal laws addressing specific privacy issues and constitutional limitations on government. Topics may include use of personal information by the media, government surveillance aimed at combating terrorism, the privacy of health care information, the collection and use of personal information by businesses, privacy in schools and at the workplace and international privacy issues. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7676 Public Finance Law Cr. 2

Legal principles involved in public finance transactions: municipal borrowing and debt; state law considerations: sources of authority for borrowing and repayment; effect of ultra vires borrowing, of procedural defects, municipal debt limitations, and other factors relating to power to incur municipal debt; traditional financing techniques; federal tax and securities law considerations; default and municipal bankruptcy; municipal bond market. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7680 Public Health Law Cr. 3

Legal foundations of American public health system; struggle between individual liberties and governmental interest in providing for collective health and well-being of citizens. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7686 Race and the Law Cr. 3

Impact of law on race relations and vice versa. Topics include: history and legal history, civil rights and equal protection, criminal law, affirmative action, employment, hate speech, education, interracial marriage and adoption, housing discrimination, emergence of Critical Race Theory in contemporary jurisprudence. Contemporary issues and solutions illuminated by historical problems and developments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7689 Race, the Law and Social Change in Southeast Michigan Cr. 2-3

Detroit is the most segregated metropolitan area in the country.

Course examines role and limits of law in addressing issues of race, discrimination and equality in southeastern Michigan. From a legal and anthropological perspective, students study the efforts attorneys have made over the past century to create a region more consistent with American values of inclusiveness. Individual and class action lawsuits and other forms of policy advocacy, all addressing legal problems in southeast Michigan, examining litigation tactics and the role of expert testimony. History and social problems of the region examined from the perspective of the courtroom. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7701 Real Estate Financing Cr. 2-3

Methods of financing the acquisition and improvement of residential and commercial real estate through the use of private sources of funds. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7725 Religious Liberty in the United States Cr. 3

Relationship between church and state in the United States. First Amendment Free Exercise and Establishment Clauses; related state and federal statutes; matters of history, legal doctrine, and public policy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7751 Advanced Sales and Leases under the UCC Cr. 2-3

Advanced study in sales areas beyond first-year contracts course. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7756 Secured Transactions Cr. 3

Basic study of Article 9 of the Uniform Commercial Code with particular attention to the law governing the creation and perfection of security interests in personal property and the relative priorities of interested parties; also attention to some of the following: goods-oriented remedies in Article 2, financing leases in Article 2a, bulk sales, effects of the Bankruptcy Code on secured transactions, and documents of title Article 7. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7761 Securities Regulation Cr. 2-3

Analysis of current problems in federal and state regulation of transactions in securities. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7766 Sports and the Law Cr. 2-3

Survey of legal issues presented by sports in America. Application of basic principles of antitrust and labor law, constitutional law, administrative law, contract law and tort law to sports. Regulation of professional sports labor markets, regulation of agent representation, sports franchises, leagues and the powers of commissioner's offices, and the regulation of intercollegiate sports. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7771 State and Local Taxation Cr. 3

Sales and use taxes and corporate and personal income taxes imposed by states and other subnational governments, including Indian tribes. Extensive treatment is given to the constitutional limitations on cross-border taxation under the Due Process Clause and Commerce Clause. Methods for apportioning income among jurisdictions are covered from a theoretical perspective. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7800 State Constitutionalism Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7806 Tax-Exempt Organizations Cr. 2

Examines tax problems arising from activities of non-profit associations of a type usually subject to taxation. Offered Biannually.

Prerequisite: LEX 7771

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7816 Taxation Cr. 1-4

Interrelation between income tax policy and basic governmental and social institutions. Introduction to law of federal income taxation; the taxation of individuals. Basic application of these taxes; problems involved in transactions and situations which confront the lawyer in general practice; analysis and use of materials which permit their solution. Underlying problems of policy which have led to the tax law of today and which may be expected to require change in the tax law of tomorrow. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7821 Taxation of Corporations Cr. 4

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7826 Teaching Law in High School Cr. 3

Students teach 20 sessions to high school students and attend seminar on teaching methods. Preparation of model lessons, lesson plans. Field supervision. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7827 Topics in Advanced Legal Research Cr. 2

Covers complex research topics essential to successful legal practice and scholarship and builds upon the basic research skills and techniques learned in the required Legal Research and Writing course (LEX 6400). Its problem-solving approach gives students practical research experience that will enhance their ability to use legal, archival and social science information persuasively and cost-effectively. The scope is primarily limited to researching United States federal and state law. Offered Spring/Summer.

Prerequisite: LEX 6400

LEX 7828 Law of Electronic Commerce Cr. 3

New legal and policy issues that arise when businesses and consumers use the Internet to conduct their commercial transactions. Broad range of subject matters, such as history and technology of the Internet, regulatory paradigms, trademarks, copyright, jurisdiction over online disputes, spam and other online intrusions, clickwrap and browsewrap contracting, liability of online intermediaries, privacy, taxation of Internet commerce, and consumer protection. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7829 Law of the First Amendment: Freedom of Speech Cr. 2

In-depth coverage of the First Amendment guarantee of freedom of speech, press, association and petition. Emphasis on the "law of the First Amendment" as it has developed through the decisions of the Supreme Court; how the "law of the First Amendment" operates in the context of actual litigation. First Amendment issues likely to arise in the United States today and tomorrow. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: LEX 7126

LEX 7831 Trademarks and Unfair Competition Cr. 2-3

Federal trademark statute, 15 U.S.C. section 1051 et. seq., state statutory and common law unfair competition, and the federal law of unfair competition and false advertising under 15 U.S.C. section 1125 (a). Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7836 Trial Advocacy Cr. 3

Basic trial techniques taught through student performances of role-play exercises followed by critique. Mastering major trial skills in isolation: direct and cross examination, introduction of exhibits, impeachment, expert witnesses, opening and closing statements. Application of skills in simulated full criminal or civil jury trial. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: LEX 7604

LEX 7841 Trusts and Decedents' Estates Cr. 4

Intestate succession, wills and trusts, requisite elements of wills and express trusts, and procedural requirements for their creation; administration of decedents' estates and trusts; special rules relating to charitable and spendthrift trusts; trust forms as equitable remedial devices under resulting and constructive trust rules. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7888 United States Foreign Relations Law Cr. 4

Constitutional and statutory doctrines that regulate the conduct of U.S. foreign relations. Topics include: distribution of foreign affairs powers between the three branches of government, status of international law in U.S. courts, scope of the treaty power, validity of executive agreements, preemption of state foreign affairs activities, and the political question and other doctrines regulating judicial review in foreign affairs cases; political influences on and policy effects of legal doctrines in this field. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: PS 6870

LEX 7931 Water Law Cr. 2-3

Categories of water bodies and public and private rights therein under the riparian and the prior appropriation systems. Consumptive and non-consumptive uses, management, and protection of the resource. Intergovernmental relations with respect to water resource allocation and management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7941 White Collar Crime Cr. 3

Substantive and investigative issues related to federal prosecution of business crimes. Balance between government powers to investigate white collar crime and the rights of corporate and individual investigatory targets in connection with criminal prosecutions of federal economic crimes. Problems related to parallel civil enforcement actions involving the same underlying conduct. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7951 Workers' Compensation Law I Cr. 2

Overview of Michigan statute; discussion of "arising out of" and "in the course of employment," including the going to and from work doctrine. Analysis of the occupational disease provisions of the statute as compared to single event personal injury provisions. Study of specific loss. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7990 Directed Study Cr. 1-2

A directed study may involve writing a paper, participating in a regularly-scheduled course for reduced credit, or other work of an academic nature. Subject matter and procedure are to be arranged prior to registration. Directed studies may not be elected on a pass-no credit basis. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7995 Law Practicum Research Cr. 1

Students enrolled in the Law Practicum Research participate in an employment experience directly related to their academic studies and concurrently consult with a supervising member of the full-time Law School faculty. An enrolled student must submit written work to the supervising faculty member that relates the employment experience to the student's academic studies and that includes consideration of the roles and responsibilities of practicing attorneys and strategic and ethical issues in the applicable field of law. Offered Every Term.

LEX 7999 Special Topics Cr. 2-4

Areas of current interest in the law. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8001 Antitrust and Trade Regulation: Current Issues Seminar Cr. 3

Addresses current topics in antitrust and trade regulation, providing a mix of substantive knowledge and professional skills instruction. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8002 Access to Justice Seminar Cr. 3

History, policies, practices and laws that demonstrate how our legal system addresses access to justice for people with economic needs or other restrictions that prevent them from using the system effectively. Seminar examines issues in both the criminal and civil areas. How lawyers are uniquely suited to improve access to justice. Career options to enhance access to justice, such as: following a public interest career, performing pro bono legal service for the poor, and exercising leadership in government and elsewhere to bring changes that enhance access to justice for all. Lectures, readings, research, site visits, and guest speakers. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8003 Reimagining Development in Detroit: Institutions, Law and Society Cr. 3

Seminar course. Examination of contemporary problems of community development from a perspective of institutional economics; how tools and theories of institutional economics are applied to problems relevant to the City of Detroit. Students write research papers applying these tools to issues such as race and regionalism, role of faith-based organizations in community development, abandoned land and community gardens, structure of local governance, charter schools and the fate of public schools, opportunity-based housing, and state of health-care safety net providers. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8010 Ancient Greek and Roman Law Cr. 3

Legal systems of ancient Greece and Rome. The law of Athens during its classical period in fifth and fourth centuries B.C.E.; development of Roman law during Republican period and the Empire, as transmitted through the compilations of Justinian in the sixth century C.E. Students write a paper on a subject related to the course material (this paper will satisfy the Law School writing requirement). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8015 Asian Pacific American History and the Law : Perspectives on APA Civil Rights and Civil Wrongs Cr. 3

This seminar explores the Asian Pacific American civil rights movement with an overview of how federal and state laws have affected the Asian Pacific American (APA) experience and presence in the United States, covering a variety of civil rights cases and civil wrongs against APAs. The seminar will cover the APA historical timeline, exclusion laws, alien land laws, World War II internment of Japanese Americans, affirmative action as it applies to APAs, civil rights and racial hate crime violence, APAs in the marriage equality movement, bilingual issues in education and in the workplace, post-9/11 issues, immigration law reform, the Hawaiian sovereignty movement, and the effort to change birthright citizenship and immigration laws, among other topics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8029 Citizenship Seminar Cr. 3

Legal understanding of citizenship. How has the concept of citizenship evolved over time? How do we (or should we) decide who is and is not a citizen in the U.S. and in other nations? If one is a citizen, what rights flow from that status? Completion of this seminar satisfies the Law School writing requirement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8031 Commercial Law Seminar Cr. 3

Advanced study of an area of commercial law; assigned readings. Final grade based on paper and seminar discussion leadership, on topic selected by student from instructor's list. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8037 Consumerism&Democracy Cr. 3

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8039 Contract Drafting Seminar Cr. 3

Knowledge and skills necessary for sound drafting of agreements. Substantive issues of contract law and important drafting issues. Students draft several contracts for review and critique; final grade based on drafting and editing as well as participation in seminar meetings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8044 Advanced Topics in Criminal Law and Procedure Cr. 3

Focuses on the law governing, practice of, and debate about plea bargaining. Among the questions to be considered: Does plea bargaining serve society well? Is it on firm constitutional footing? What are the constitutional prerequisites for a valid guilty plea? Does plea bargaining work differently in state court and in federal court? In white collar cases and street crime cases? In high-level cases and low-level cases? What legal or extra-legal factors determine the outcome of a plea bargain? And finally, how does pervasive plea bargaining affect the role of the prosecutor, the defense lawyer, and the trial judge? This seminar can be used to complete the upper-level writing requirement. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8048 Current Topics in International Law Cr. 3

Focus on new and controversial issues; topics change with each offering. Readings, class discussions, and paper. How international institutions function, justification for the norms they seek to enforce, and coherence of those norms with respect to theories of international society. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8049 Civil Rights Trip Seminar Cr. 2

introduction to the Civil Rights Movement of the 1950s and 1960s, as well as how lawyers at preeminent civil rights organizations continue the work today. Enrolled students travel to Atlanta, Selma, Montgomery, and Birmingham over spring break; meet with prominent civil rights attorneys; visit the legal, spiritual, and political landmarks of the Civil Rights Movement; meet survivors and activists from the movement, who provide them with first-hand accounts of the Selma to Montgomery March, the maneuverings of segregationist and progressive political figures in Montgomery, and daily life during the Jim Crow and civil rights eras. Students prepare for the trip with several hours of direct instruction prior to spring break, a compendium of readings, documentary films, and group discussion on the 14th Amendment, Jim Crow, the Civil Rights Movement, critical race theory, narratives of African-American migration, white privilege, structural racism, implicit bias, and how legislation and enforcement intersect with each of these topics. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8051 Detroit Equity Action Lab: A Collaborative Study of Structural Racism Seminar Cr. 3

This Seminar introduces students to notions of structural racism as it impacts the city of Detroit. Students will work collaboratively with members of the Detroit Equity Action Lab (DEAL) addressing racial equity in a wide range of sectors, such as civil rights, transportation, community development, health, education and housing. Students will develop awareness of the role and limits of law in addressing structural racism. In addition to examining the work of individual organizations, students will consider broader issues impacting racial equity and will explore interventions that might change public policy and public awareness as it relates to structural racism. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8067 Effective Oral Communication for Lawyers Cr. 3

Exercise-based seminar to help students become more familiar with, and more skillful at, oral communication in the various settings familiar to a lawyer. Topics include: physiology of speech and sources of speech pathology; aspects of non-verbal communication; use of humor; stage fright; making communication interesting. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8068 Energy Law: Current Topics Cr. 3

In-depth exploration of a particular topic regarding regulation of energy production or consumption. Topics may include: regulation of fuel sources and emissions in the U.S. transportation sector, incentives and regulations in financing clean energy investments, and the impact of regulation on adoption of electric vehicles. Students are responsible for a research paper and presentation to the class. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8075 Ethics of the Lawyering Experience Seminar Cr. 3

Psychological and ethical dimensions of law and legal practice, explored through engagement with works of fiction and selected legal scholarship. Student writes weekly reaction paper. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8081 Evidence Law: Advanced Topics Cr. 3

Seminar course; students write papers and give presentations on current topics of evidence law. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8101 Family Violence: Seminar Cr. 3

Analysis of the utilization of the legal system to address issues of abuse within the family. Topics include: the response of the criminal justice system to various forms of family violence, such as marital rape, spouse abuse, and child abuse; use of tort and injunctive remedies; examination of new and proposed legislation relevant to these issues. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8141 International Environmental Law Seminar Cr. 3

Students explore use of bilateral and multilateral treaties and other international mechanisms for dealing with international environmental problems; emphasis on United States - Canada international environmental law. In-class presentations, paper required. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8161 International and Comparative Business Law: Doing Business in China Seminar Cr. 3

Preparation of papers and presentations on various aspects of business in China. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8171 Health Law: Advanced Topics Cr. 3

Examines current legal issues related to health, such as applications of the law within and outside the health care system; contemporary debates on role of government and private sector in health; innovative proposals to use law, ethics and policy to improve health; and the role of law during public health emergencies. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8190 International Women's Human Rights Seminar Cr. 3

Evolution of women's rights as human rights. Students will examine women's human rights in the context of legal instruments such as the UN Convention to Eliminate Discrimination Against Women (CEDAW) and other international treaties, and in the jurisprudence of women's human rights in international tribunals. This course will also explore the role of global and regional human rights organizations in securing women's legal rights and analyze the current legal discourse on women's human rights and explore key issues in the light of specific world regions, cultures and religious traditions. Offered Fall.

LEX 8241 Advanced Topics in Work Law Cr. 3

Examines current and developing issues in labor and employment law. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8248 Law and Literature Seminar Cr. 3

Connection between law and literature. Topics include: role of narrative in legal arguments and legal decision-making; role of narrative and law, respectively, in constructing identity; literary criticisms of the law and legal profession. Focus on stories of adoption, including: shifting definitions of parenthood; nature vs. nurture debate; issues of class, race, gender, and national identity. Novels, short stories, films, memoirs, and legal cases; authors include Charles Dickens, George Eliot, P.D. James, and Louise Erdrich. In-class presentations; paper required. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8256 Law in Cyberspace: Seminar Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8260 Law of the City: Detroit: Seminar Cr. 3

Exploration of legal, economic, and policy issues regarding the contemporary American city, using Detroit as the case study. Themes covered include race, class, positive rights, community organization and identity, economics, public education, environmental justice and legal pluralism. Students read in constitutional and statutory provisions, case law, administrative determinations, academic writing, and current popular media. Discussion of a different aspect of urban law each week; students explore a broad array of legal issues and opportunities in the urban environment around them; current law and policy reforms; research paper and presentation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8263 Legal Change Seminar Cr. 3

What is the relationship between law and social change? How effective are changes in legal doctrine in changing social practices? Under what conditions can we effectively use the law to promote social change? This course investigates these questions by studying the relationships among social movements, courts, legislatures, and other international and domestic institutions. Students will examine materials from actual legal reform movements, including equality in education and women's rights, and evaluate strategies for legal reform and their impact on statutory and decisional law as well as social practices. Offered Biannually.

LEX 8271 National Labor Relations Act: Current Problems Cr. 3

Legal issues pending before the National Labor Relations Board and in the courts. Students act in place of NLRB and render opinions on critical labor law issues; read actual briefs in pending cases, discuss the cases, and vote on disposition and draft majority and dissenting opinions. Each student writes one majority and one concurring or dissenting opinion. Class discussions focus on NLRB decision-making process and judicial review of Board decisions; and on draft opinions of student Board panels. Grade is based on class participation as well as written work; students may elect to write papers based on legal issues discussed in class. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8280 National Security Law Seminar Cr. 3

National security as area of specialization within government law practice, private law practice, and academia. Aspects of international law, constitutional law, criminal law, administrative law, and other fields as they apply to issues such as: Who formulates and implements the national security policies of the United States? When do the nation's security interests trump competing values (civil liberties, transparency, fulfillment of the nation's international legal obligations)? In what respects is America's approach to these issues similar to or different from that of other countries? Readings include statutes, treaties, regulations, case law, and extensive secondary literature, which serve as a basis for a substantial research paper or law journal note. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8300 Race and the Law: Advanced Topics Cr. 3

In-depth examination of particular issues; topics may include: emerging issues in education, voting rights and criminal justice; intersection of race and sports law; or race and the media. Focus may be related to Michigan or the metropolitan Detroit area. In-class presentations, research paper. Completion of this course will satisfy Law School writing requirement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8335 Regulation of Vice Cr. 3

Seminar exploring legal, economic, and policy issues regarding federal, state, and local regulation of vice, including: alcohol nicotine, drugs, gambling, and commercial sex. The current legal landscape; potential policy reforms. Students prepare a research paper on a mutually agreed upon topic, which may include a specific regulation or vice law, proposed policy reform, comparative analysis from another jurisdiction, and state/local issues. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8345 Sex, Sexuality and the Law in the Contemporary United States Cr. 3

The ways the law constructs people as sexual beings and regulates that being and her/his sexuality. Seminar course has four main objectives: 1) to deepen understanding of contemporary U.S. laws that address sex and sexuality; 2) to understand the ways in which individuals and groups are impacted by those laws; 3) to learn and apply aspects of critical legal theories in legal analysis; and 4) to strengthen written and oral legal analysis and communication. Workshop format; class contribution makes up a significant portion of the grade. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8351 Sports and Inequality Cr. 3

This seminar will examine the legal and social implications of various forms of discrimination in both the professional and amateur sports contexts. Coverage will include a discussion of legal efforts to address discrimination in sports based on race, gender, disability, and sexual orientation. Topics include racial inequalities on the playing fields and in the front offices of amateur and professional sports, the impact of NCAA eligibility criteria, the effects and future of Title IX, gender segregation and exclusion in professional sports and sexual violence, sexual orientation discrimination in sports, and sports opportunities for people with disabilities. The final paper for this class may be used to satisfy the upper-level writing requirement. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8361 Tax Plcy: Crnt Issus Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8363 Tax Policy Seminar: Role and Impact of Congressional Oversight on Abusive Tax Strategies Cr. 3

This seminar will examine the international tax rules, the abusive strategies, and the responses by Congress and foreign governments. We will use excerpts from Congressional hearings to explore the role of Congressional oversight in identifying the noncompliance with existing laws, the role of foreign governments in facilitating abuses and illegal behavior, and the need for legislative or administrative action to address some of the abuses. We will consider policy options to reduce the incentives for businesses to pursue these strategies. We will examine professional ethics and the role of lawyers and other professionals in structuring these abusive transactions. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8401 Urban Housing and Community Development: Seminar Cr. 3
Legal, social, and economic aspects of urban housing and community development, including local, state and national programs and policies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8505 Criminal Justice Externship Practicum Cr. 2

Students perform 150 hours of unpaid work in a criminal prosecutor or defender's office. Students are assigned tasks similar to those performed by entry-level prosecutors and defenders. Students develop advocacy skills, legal drafting skills, law practice management skills, the ability to recognize and resolve strategic and ethical dilemmas, and the ability to learn from experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8506 Criminal Justice Externship: Colloquium Cr. 2

Roles and responsibilities of criminal prosecutors and defenders, the judicial process in criminal cases, and strategic and ethical issues in criminal prosecution and defense. Substantial class time is devoted to professional skills instruction and to facilitated discussion and analysis of students' fieldwork observations and experiences. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8507 Judicial Externship: Practicum Cr. 2

Students perform 150 hours of unpaid work in judicial chambers. Students are assigned tasks similar to those performed by judicial clerks. Students develop research, writing, and analysis skills, legal drafting skills, oral communication skills, law practice management skills, and the ability to learn from experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8508 Judicial Externship: Colloquium Cr. 2

Students learn about the roles and responsibilities of judges and judicial clerks, judicial decision-making, and effective advocacy. Substantial class time is devoted to professional skills instruction and to facilitated discussion and analysis of students' fieldwork observations and experiences. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8515 Corporate Counsel Externship: Practicum Cr. 2

Students perform 150 hours of unpaid work in corporate counsel offices of non-profit and for-profit entities for two credits. Students are assigned tasks similar to those performed by attorneys in corporate counsel or general counsel offices. The Practicum is an opportunity for students to develop professional skills, including legal analysis and reasoning, contract drafting, problem solving, communication, teamwork, negotiation, and fact-finding. Students will also learn about important workplace issues such as time management, corporate culture, professionalism, and giving and receiving feedback. Grading will be on an Honors, Pass, Low Pass, No Credit basis. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8516 Corporate Counsel Externship: Colloquium Cr. 2

Students will learn about substantive issues encountered in an in-house legal department and the ethical responsibilities of in-house counsel. Substantial class time is devoted to professional skills instruction on topics such as working with outside counsel, conflicts management, contract drafting, and conducting internal investigations. Students will also participate in facilitated discussion and analysis of their fieldwork observations and experiences. Chief legal officers, general counsel, and senior managing attorneys will guest lecture in some classes. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8595 Advanced Externship Cr. 2

A two-credit, letter-graded course for students who will complete a second externship at a different field placement in the same substantive area or at a different division of the same location of their prior placement. Students will complete 150 hours of work at an approved field placement, submit reflective memoranda as assigned, and meet with the Director of Clinical Education, or other designated Faculty Supervisor, at least three times during the semester. Approval will only be granted in the rare circumstances where a student's learning objectives differ significantly from those for the first externship and these learning objectives cannot be met by existing clinical or experiential learning course opportunities. Application process required. Offered Every Term.

Prerequisites: ([LEX 8506] OR [LEX 8508] OR [LEX 8516] OR [LEX 8599])

Restriction(s): Enrollment is limited to Law level students.

LEX 8598 Public Interest Externship: Practicum Cr. 2

Students perform 150 hours of unpaid work in public interest settings. Students are assigned tasks similar to those performed by entry-level public interest lawyers. Students develop interviewing and counseling skills, legal drafting skills, oral communication skills, law practice management skills, and the ability to learn from experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8599 Public Interest Externship: Colloquium Cr. 2

Students learn about the roles and responsibilities of public interest lawyers, strategic, practical, and ethical dimensions of public interest practice, and effective advocacy. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8601 Criminal Appellate Practice Clinic Cr. 4

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8604 Asylum and Immigration Law Clinic Cr. 6

Lawyering skills and values needed to effectively represent clients, and the legal skills and knowledge needed to represent clients seeking asylum or other immigration benefits, including an Immigration Court hearing. Asylum case simulation. Professional responsibility issues. In clinical component, students represent clients on a variety of immigration matters. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8606 Asylum and Immigration Law Clinic (Advanced) Cr. 2

Students continue to gain increased experience in different settings and issues, and may also organize and participate in community outreach projects. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8607 Civil Rights and Civil Liberties Clinic Cr. 4

Collaborative venture with American Civil Liberties Union (ACLU) of Michigan; opportunity to litigate civil rights and civil liberties impact cases before state and federal courts. Classroom component includes a semester-long simulation of a civil rights case that gives students opportunity to develop professional skills such as interviewing, counseling, drafting pleadings and discovery requests, taking depositions, preparing and arguing motions, and negotiating with opposing counsel. Offered Winter.

Prerequisites: (May be taken concurrently: [LEX 6800 with a minimum grade of C]) AND (May be taken concurrently: [LEX 7266 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 8 Credits

LEX 8610 Transnational Environmental Law Clinic (Advanced) Cr. 2

Students continue their work with the Environmental Law Clinic, gaining increased experience in different settings on issues; students work with Great Lakes Environmental Law Center and may be involved in formally representing other community organizations and public interest groups. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8611 Transnational Environmental Law Clinic Cr. 6

Skills and strategies needed to affect environmental policy in the three branches of state and federal government. Classroom sessions include current environmental policy challenges and opportunities; guest speakers. Clinical component includes preparation of policy papers and formal legislative testimony, commenting on rulemaking and permit decisions, and engaging in judicial review and enforcement litigation; students work with Great Lakes Environmental Law Center. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8615 Patent Procurement Clinic Cr. 4

Students represent clients in patent procurement matters before the U.S. Patent and Trademark Office, Detroit satellite office. Student work includes interviewing and counseling clients, fact investigation, performing legal research, conducting prior art searches, and drafting and prosecuting patent applications. Skills and values necessary to effectively represent clients in patent procurement matters; exploration of substantive areas of patent law that arise in these matters. Professional responsibility issues commonly faced by patent attorneys, such as conflicts, competence, and confidentiality. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8616 Patent Procurement Clinic (Advanced) Cr. 2

Students in this clinic represent clients in patent procurement matters before the United States Patent and Trademark Office's Detroit, Michigan, Satellite Office. There is no classroom component in the Advanced Patent Procurement Clinic. Students will be expected to spend between five to ten hours per week continuing work on ongoing cases that have significant deadlines during the semester, gaining increased experience in different settings and addressing more complex issues. Advanced Clinic students will also work with PPC faculty to provide direction and guidance to those enrolled in the PPC Clinic for the first time, in areas in which Advanced Clinic students have already acquired some expertise. Time spent in the Advanced Clinic will include a one-hour weekly meeting with the Clinic's faculty to discuss the status of client matters. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8621 Free Legal Aid Cr. 4

The Free Legal Aid Clinic, Inc. (FLAC) is a student-run, non-profit organization with a board of directors composed entirely of current Wayne Law students. FLAC partners with legal services organizations to provide free legal services to low-income people in Wayne County. FLAC students practice under the supervision of legal aid attorneys and law school faculty pursuant to the Michigan Student Practice Rule. Students, who work an average of 12-14 hours per week, are responsible for all aspects of the cases assigned to them, including interviewing clients, drafting pleadings and other court filings, arguing motions, conducting trials and evidentiary hearings, negotiating with opposing counsel, researching legal issues, and drafting legal documents. Students participate in a twice-weekly seminar class for this letter-graded course. Credits earned meet the experiential learning and clinical education requirements. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8622 Free Legal Aid: Advanced Cr. 2

Students continue to work 12-14 hours per week at FLAC, taking on more complex cases and leadership roles within the organization. Students will meet with faculty on a weekly basis to discuss topics such as law practice management and non-profit management, as well as advanced substantive law topics and skills training. Students may also mentor new students and act as teaching assistants for the basic Free Legal Aid course. Limited enrollment, prior faculty approval required. Offered Every Term.

Restriction(s): Enrollment is limited to Law level students.

LEX 8625 Govt Agency Internship Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8627 In-House Counsel Internship Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8631 Business and Community Law Clinic Cr. 6

Course component: basic provisions of nonprofit corporate law, tax law, and legal ethics that affect community economic development groups. Clinical component: students assist a community group at or near the stage of incorporating itself and/or applying for tax-exempt status, in services such as drafting and filing articles of incorporation, bylaws, and IRS forms. Students complete term paper on topic of interest to community economic development organizations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8633 Business and Community Law Clinic (Advanced) Cr. 2

Participation requires demonstrated commitment to business law, community economic development, or nonprofit law. No classroom component; enrollment limited to two students per semester; students spend between five and ten hours a week continuing their work on ongoing cases and meeting significant deadlines during the semester. Advanced Clinic students also work with BCL faculty to provide direction and guidance to those in the BCL Clinic for the first time, in areas in which Advanced Clinic students have already acquired some expertise; as well as coordinate community outreach and informational programs. Includes one hour per week meeting with BCL faculty to discuss the status of client matters. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8641 Disability Law Clinic Cr. 6

Cooperative venture with Wayne County Legal Services. Hands-on experience while helping individuals with disabilities and their families obtain services and support to avoid out-of-home placement at public expense. Students perform 15-20 hours fieldwork per week. Student responsible for 3 to 5 cases: investigating facts, researching law, counseling client, representing client in administrative or judicial proceedings, drafting and arguing appeals, engaging in settlement negotiations. Intake, case acceptance, individual client representation, community education and law reform efforts. Includes two-hour weekly seminar; graded on honors pass-low pass-no credit basis. Credits count toward 14-credit maximum in applied and skills courses. No credit after LEX 8621. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8642 Disability Law Clinic (Advanced) Cr. 2

Students continue their work on cases or projects begun in the Disability Law Clinic that could not be completed in a single term, work on new cases or projects that involve more complex issues or give students opportunities to develop additional skills, or serve as teaching assistants for the Clinic. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8661 Legal Advocacy for People With Cancer (Clinic) Cr. 4-6

Students work with healthcare professionals at the Karmanos Cancer Center to identify and resolve legal issues that present barriers to patient care and wellbeing. Students advise and assist people with cancer in matters pertaining to health insurance, housing, employee rights and benefits, estate and healthcare planning, and public benefits. They develop skills used in a broad range of practice settings: interviewing and counseling, case-management, problem-solving, persuasive fact analysis, legal drafting, negotiation, effective oral communication, and interdisciplinary collaboration. Ethical issues case analysis; maintaining confidentiality; identifying and managing conflicts of interest; the lawyer-client relationship; decision making authority between lawyer and client. Legal issues that affect people with cancer; interaction between law and health; medical-legal partnership model of legal services delivery; client-centered and holistic approaches. Offered for Law School grading: Honors pass, pass, low pass, no credit. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8662 Legal Advocacy for People with Cancer Clinic (Advanced) Cr. 2

Continuation of work begun in LEX 8661 which could not be completed in a single term; work on new cases or projects that involve more complex issues or give students opportunities to develop additional skills or serve as teaching assistants for the LAPC Clinic. Students are expected to perform at least 100 hours of clinical work, including regular, frequent meetings with the course instructors. Course does not have a classroom component, but students who serve as teaching assistants are expected to participate in some LAPC classes. Students are required to document their clinical work through detailed, contemporaneous time logs. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8701 Law Review Cr. 1-2

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8711 Moot Court Cr. 1-2

Members conduct, under general faculty supervision, the program in the preparation of briefs and the hearings on oral arguments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8721 Mock Trial Cr. 1-2

Members participate in skills training; intraschool, regional, and national trial advocacy competitions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8731 The Journal of Law in Society Cr. 1

Members contribute to publication of this law journal and the annual symposium. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8741 Transactional Law Competition Cr. 1

Practical skills course focused on improving transactional lawyering skills, including drafting agreements, revising agreements, advising clients, and negotiating with transactional attorneys, while exploring important legal/business issues relevant to mergers and acquisitions. During the fall semester, students will participate in an in-house transactional law competition, and during the winter semester, students will participate in the National Transactional LawMeet Competition. Offered Yearly.

Repeatable for 4 Credits

LEX 8815 Fundamentals of US Legal Research Cr. 1

Introduction to U.S. legal research skills for students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8830 Introduction to the Legal System of the United States Cr. 2

Introduction to U.S. legal research skills for students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Law level students; enrollment limited to students in the Law School.

LEX 8875 Survey of United States Law Cr. 3,4

Concise survey of several substantive fields of United States Law (principally in the area of private law) with focus on several core legal topics integral to understanding the U.S. legal system as a whole, and to working with U.S.-trained lawyers. Material drawn from a variety of areas, such as: law of contracts, property, torts, criminal law, and constitutional law. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8890 US Legal Skills for Foreign Law Students Cr. 2

This course will provide foreign-trained lawyers with a working knowledge of the memo-drafting, transactional, and other skills utilized by U.S. Lawyers. Students will draft a legal memorandum, a client letter, and a contract. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8999 Master's Essay Direction Cr. 1-2

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 2 Credits

Law Faculty

ABRAMOWICZ, SARAH: J.D., Ph.D., Columbia University; B.A., Stanford University; Associate Professor

ACKERMAN, ROBERT M.: J.D., Harvard University; B.A., Colgate University; Professor

ADELMAN, MARTIN J.: J.D., M.S., B.A., University of Michigan; Professor Emeritus

BARTELL, LAURA: J.D., Harvard University; B.A., Stanford University; Professor

BEALE, LINDA M.: LL.M., New York University; J.D., Ph.D., M.A., Cornell University; B.S., Duke University; Professor

BEECHER-MONAS, ERICA: J.S.D., Columbia University; J.D., M.S., University of Miami; B.A., Florida International University; Professor

BENSON, JOCELYN M.: J.D., Harvard University; MPhil, Oxford University; B.A., Wellesley College; Associate Professor

BROWER, CHARLES: J.D., University of Virginia; B.A., University of Vermont; Professor

BROWNE, KINGSLEY R.: J.D., University of Denver; M.A., University of Colorado; B.A., George Washington University; Professor

BURNHAM, WILLIAM: J.D., B.A., B.S., Indiana University; Professor Emeritus

CALKINS, STEPHEN: J.D., Harvard University; B.A., Yale University; Professor

CANCELOSI, SUSAN E.: LL.M., University of Houston; J.D., Cornell University; B.A., BB.A., Southern Methodist University; Associate Professor

CARLSON, KIRSTEN: J.D., Ph.D., University of Michigan; M.A., Victoria University; Assistant Professor

COOK, BLANCHE B.: J.D., University of Michigan; B.A., Vassar College; Assistant Professor

DAY, KATHRYN M.: J.D., Northwestern University; B.A., University of Michigan; Lecturer

DILLOF, ANTHONY M.: LL.M., J.D., Columbia University; B.A., Harvard University; Associate Professor

DOLAN, JOHN F.: LL.B., University of Illinois; Distinguished Professor Emeritus

DUBINSKY, PAUL R.: LL.M., Katholieke Universiteit; J.D., Harvard University; B.A., Yale University; Associate Professor

FINDLATER, JANET E.: J.D., University of Michigan; B.A., Smith College; Associate Professor

FOX, GREGORY H.: J.D., New York University; B.A., Bates College; Professor

GABLE, LANCE: J.D., Georgetown University; M.P.H., B.A., The Johns Hopkins University; Associate Professor

HALL, NOAH D.: J.D., B.S., University of Michigan; Associate Professor

HAMMER, PETER: Ph.D., J.D., University of Michigan; B.A., B.S., Gonzaga University; Professor

HENNING, PETER J.: J.D., Georgetown University; M.A., Fordham University; B.A., Loyola Marymount University; Professor

HETZEL, OTTO J.: LL.M., Harvard University; J.D., Yale University; B.A., Pennsylvania State University; Professor Emeritus

HOFMEISTER, BRANDON: J.D., B.A., Harvard University; Assistant Professor

KELLY, MARILYN: J.D., Wayne State University; M.A., Middlebury College; B.A., Eastern Michigan University; Distinguished Jurist in Residence

KELMAN, MAURICE B.: LL.M., Harvard University; J.D., B.A., Wayne State University; Professor Emeritus

KORNBLATT, KERRY: J.D., University of Virginia; B.A., Rhodes College; Lecturer

LAMBORN, LEROY L.: J.S.D., Columbia University; LL.M., Yale University; LL.B., Western Reserve University; A.B., Oberlin College; Professor Emeritus

LEVIN, CARL: J.D., Harvard University; B.A., Swarthmore College; Distinguished Legislator in Residence

LITTLEJOHN, EDWARD J.: LL.M., J.S.D., Columbia University; J.D., Michigan State University; B.A., Wayne State University; Professor Emeritus

LONG, JUSTIN: J.D., University of Pennsylvania; A.B., Harvard University; Associate Professor

LUND, CHRISTOPHER C.: J.D., University of Texas; B.A., Rice University; Associate Professor

MAHONEY, JOAN: Ph.D., Cambridge University; J.D., Wayne State University; A.M., A.B., University of Chicago; Professor Emeritus

MOGK, JOHN E.: J.D., B.B.A., University of Michigan; Diploma of Comparative Law, University of Stockholm; Professor

MORRISON, ADELE M.: LL.M., University of Wisconsin; J.D., Stanford University; B.A., San Francisco State University; Associate Professor

MOSS, DAVID R.: J.D., Columbia University; B.A., Swarthmore College; Clinical Associate Professor

NEVILLE, AMY: J.D., Wayne State University; B.S., Central Michigan University; Lecturer

QIN, JULIA YA: LL.M., S.J.D., Harvard University; LL.B., Peking University; Professor

REED, JOHN W.: LL.M., J.S.D., Columbia University; LL.B., Cornell University; A.B., William Jewell College; Professor Emeritus

ROTHCHILD, JOHN A.: J.D., University of Pennsylvania; A.B., Princeton University; Associate Professor

SCHENK, ALAN S.: LL.M., New York University; LL.B., B.S., University of Illinois; Distinguished Professor

SCHROECK, NICHOLAS: J.D., Wayne State University; B.A., Elmhurst College; Clinical Assistant Professor

SEDLER, ROBERT A.: J.D., B.A., University of Pittsburgh; Distinguished Professor

SETTLAGE, RACHEL: J.D., M.S.F.S., Georgetown University; B.A., University of California at Berkeley; Assistant Professor

THEUT, KRISTIN C.: J.D., Wayne State University; B.A., University of Michigan; Lecturer

WEINBERG, JONATHAN: J.D., Columbia University; A.B., Harvard University; Professor

WELLMAN, VINCENT A.: J.D., Yale University; B.A., Pomona College; Associate Professor

WHITE, KATHERINE: LL.M., George Washington University; J.D., University of Washington; B.S.E., Princeton University; Professor

ZACKS, ERIC A.: J.D., Harvard University; B.A., University of Michigan; Assistant Professor

COLLEGE OF LIBERAL ARTS AND SCIENCES

Dean: Wayne Raskind

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.

Academic Regulations for the College of Liberal Arts and Sciences

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section of this bulletin. The following additions and amendments pertain to the College of Liberal Arts and Sciences.

Graduate Programs Admission Requirements

Admission to any graduate degree program is contingent upon meeting the admission requirements of the Graduate School (p. 17).

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 credits 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. Formal admission to the graduate program occurs as AGRADE students complete their baccalaureate degree.

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 and College of Liberal Arts and Sciences. In addition to the general Graduate School requirements for degrees (p. 34) 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 Ph.D. 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 Ph.D. 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.

Theses/Dissertation 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.

Anthropology

Office: 3054 Faculty Administration Building; 313-577-2935
Chairperson: Andrea Sankar
Academic Services Officer: Susan Villero
Graduate Director: Stephen Chrisomalis
<http://clas.wayne.edu/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.

Academic Scholarship: All course work completed to satisfy the following degree requirements must be done in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178). 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.

- Anthropology (M.A.) (p. 180)
- Anthropology (Ph.D.) (p. 181)
- Social Work/Anthropology SWAN (Ph.D.) (p. 182)

Anthropology (M.A.) Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Additionally, applicants must satisfy the following:

1. The student must have completed ANT 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 15 for admittance in the following Fall Semester.

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 file a plan of work prior to the completion of twelve credits and must petition the Graduate Committee for any exceptions to the M.A. requirements.

The following courses, or their equivalents, must be completed either as an undergraduate (see note below) or graduate student.

Core ¹		18
ANT 5140	Biology and Culture	
ANT 5270	Concepts and Techniques in Archaeology	
ANT 5320	Language and Societies	
ANT 5700	Applied Anthropology	
ANT 7005	Thinking and Writing Anthropology	
ANT 7010	Anthropological Theory I	
Methods Options		4
Select one of the following (in consultation with advisor):		
ANT 5210	Anthropological Methods	

ANT 5230	Mixed Methods Research Methodology	
ANT 5280	Field Work in Archaeology of the Americas	
Electives		9
ANT 7xxx - Seminar		
ANT 7xxx - Seminar		
Elective		
Graduation Requirements		
Select one of the following:		3-8
ANT 7900	Synthesis (Plan C) ²	
ANT 7999	Master's Essay Direction (Plan B) ³	
ANT 8999	Master's Thesis Research and Direction (Plan A) ⁴	
Total Credits		32-34

- ¹ 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 replace the credits with any other ANT 5000 or higher level course chosen in consultation with their advisor.
- ² ANT 7900 is an integrative, holistic and comparative course that synthesizes diverse analytical perspectives and methodologies.
- ³ 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.
- ⁴ 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.

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:

Medical Anthropology Concentration

ANT 5400	Anthropology of Health and Illness	3
ANT 7420	Anthropology Practicum	3
One additional medical anthropology course		3

Museum Studies Concentration

ANT 5600	Museum Studies	3
ANT 7420	Anthropology Practicum	3
ANT 7625	Material Culture and the Social Meaning of Things	3

Business Anthropology Concentration

ANT 5800	Anthropological Perspectives on Business	3
ANT 7420	Anthropology Practicum	3
ANT 7700	Seminar in Business and Industrial Anthropology	3-9

Applied Archaeology Concentration

ANT 6555	Cultural Resource Management and Public Archaeology	3
ANT 6570	Archaeological Laboratory Analysis	3
ANT 7420	Anthropology Practicum	3

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Additional information regarding this program is available from the department upon request.

Anthropology (Ph.D.) Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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; curriculum vitae; 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 15 to begin in the Fall semester.

The *Plan of Work* must be submitted before forty credits have been completed and before the qualifying examination is scheduled.

The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit.

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:

1. an oral defense of the dissertation prospectus and an approved doctoral dissertation outline and record of approval form;
2. a prospectus; and
3. a Human Investigations Committee Behavioral Protocol Summary Form, when applicable.

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, ANT 9992, ANT 9993, and ANT 9994) through the Graduate Office and must fulfill 7.5 credits in these courses each semester for four consecutive semesters (excluding spring-summer). All course work completed to satisfy the following degree requirements must be done in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

Coursework: The following courses, or their equivalents, must be completed:

Core

ANT 5140	Biology and Culture	3
ANT 5210	Anthropological Methods	4
ANT 5270	Concepts and Techniques in Archaeology	3
ANT 5320	Language and Societies	3
ANT 7005	Thinking and Writing Anthropology	3
ANT 7010	Anthropological Theory I	3
ANT 7020	Anthropological Theory II	3
ANT 7030	Debates in Anthropology	3
ANT 7780	Conceptualizing the Dissertation	3
ANT 7777	Teaching Anthropology	1

Methods Options

Select one of the following: 6

ANT 7200 & ANT 7210	Qualitative Research I and Qualitative Research II	
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OR two of the following:

ANT 5230	Mixed Methods Research Methodology	
ANT 5280	Field Work in Archaeology of the Americas	
ANT 6570	Archaeological Laboratory Analysis	

7000-level coursework within Anthropology 9

Graduate work in a discipline other than Anthropology 3

Graduate level electives 13

ANT 9991 Doctoral Candidate Status I: Dissertation Research and Direction 7.5

ANT 9992 Doctoral Candidate Status II: Dissertation Research and Direction 7.5

ANT 9993 Doctoral Candidate Status III: Dissertation Research and Direction 7.5

ANT 9994 Doctoral Candidate Status IV: Dissertation Research and Direction 7.5

Total Credits 90

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 (<http://clas.wayne.edu/anthropology>). Students should also consult the Graduate School's general requirements for doctoral degrees (p. 35).

Social Work/Anthropology SWAN (Ph.D.)

Students can apply to earn a doctorate in Social Work and Anthropology (SWAN). The joint Social Work/Anthropology Ph.D. program draws on the strengths of both fields in theory, social history, research, policy and practice. The SWAN program combines the approaches of each field to make use of its urban location to foster scholarship focusing on global issues of 21st century post-industrial cities and how these cities are being re-invented. Students will receive a thorough grounding in the theoretical and applied aspects of both Social Work and Anthropology and will apply this knowledge to pursue scholarship in areas of interest focusing on urbanism, internationalism, and social/cultural organization. SWAN students follow a curriculum that draws from existing courses in each field with the addition of one new core course that fully integrates the two disciplines. Specific new content combining the perspectives of both disciplines is included in the MA/MSW level practica, the qualifying exam requirements, and dissertation research to meet the educational requirements of this degree.

This program prepares scholars for work in several different occupations. Graduates are qualified for faculty positions in social work or anthropology. In addition, they are highly qualified for positions in governmental or non-profit agencies that work in urban or international development.

Academic Scholarship: All course work completed to satisfy the following degree requirements must be done in accordance with the academic regulations (p. 12) of the Graduate School. 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.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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, applicants must apply for admission to either the Social Work or Anthropology Ph.D. program and then request admission to the SWAN program. They must meet the admissions standards of the Graduate School and the SWAN program. Students who do not possess an MSW must also apply to the MSW program after alerting the SW doctoral chair of their application to the SWAN program. All application and admissions materials must be submitted to the Office of Graduate Admissions by January 15 to begin in the Fall semester.

The Plan of Work must be submitted before forty credits have been completed and before the qualifying examination is scheduled.

The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit.

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. Students who do not enter with program with an MSW will need to complete all of the courses below.

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, ANT 9992, ANT 9993, and ANT 9994) through

the Graduate Office and must fulfill 7.5 credits in these courses each semester for four consecutive semesters (excluding spring-summer). All course work completed to satisfy the following degree requirements must be done in accordance with the regulations of the Graduate School (p. 12), the College of Liberal Arts and Sciences (p. 178), and the School of Social Work (p. 295).

Coursework: The following courses, or their equivalents, must be completed by students without an MSW:

Code	Title	Credits
Social Work - Practice/Policy Courses (Foundation)		
SW 7040	Methods of Social Work Practice	3
SW 7998	Concentration Field Work for Social Workers I (Max. 12)	4-6
SW 7055	Foundation Group Theory and Practice	3
SW 7065	Foundation Macro Theory and Practice	3
SW 7720	Introduction to Social Welfare Policy in the United States	3
Social Work - Practice Courses (Community Concentration)		
SW 8048	Social Action Research and Evaluation	3
SW 8035	Techniques of Quantitative Data Analysis	1
SW 8045	Techniques of Data Interpretation and Presentation	1
SW 8075	Theories and Practice of Community Building and Development	4
Total Credits		25-27

Coursework: The following courses, or their equivalents, must be completed by ALL students:

Code	Title	Credits
Social Work - Research/Theory		
SW 9100	Social Statistics and Data Analysis	3
SW 9210	Theories for Practice and Research with Individuals	3
SW 9220	Theories for Practice and Research with Groups and Families	3
SW 9230	Theories for Practice and Research with Communities and Organizations	3
SW 9300	Applied Regression Analysis and Generalized Linear Models	3
SW 9410	Quantitative Research Methods in Social Work	3
Anthropology - Research/Theory		
ANT 5060	Urban Anthropology	3
ANT 5140	Biology and Culture	3
ANT 5320	Language and Societies	3
ANT 5700	Applied Anthropology	3
ANT 7010	Anthropological Theory I	3
ANT 7020	Anthropological Theory II	3
ANT 7200	Qualitative Research I	3
ANT 7210	Qualitative Research II	3
ANT 7780	Conceptualizing the Dissertation	3
Two ANT electives in the student's research area		
SWAN - Theory		
SW 9697	Integrative Seminar in Social Work and Anthropology	3
Total Credits		48

Qualifying Exams: The SWAN steering committee will design and administer the SWAN qualifying examinations so that students can demonstrate the breadth, depth and mastery of their theoretical and empirical knowledge related to social work and anthropology theory, research methods and data analysis approaches as well as their substantive domain of knowledge. Students will demonstrate this knowledge through a written examination consisting of four sections:

1. statistics,
2. culture area,
3. research methods, and
4. a substantive paper demonstrating students' application of social science theory and SWAN knowledge to their intended research domain.

The statistics exam will be an in-school, open book exam developed by faculty teaching the required statistics courses. For the take home theory, topic area and substantive paper components, students will, in consultation with their academic advisers, select a three-person examination committee consisting of social work and anthropology faculty. These examination committee members will meet with students to develop reading lists and questions that students will then address in written take-home exams.

Students who fail one or more sections of the qualifying examination will be expected to retake only those sections that they failed. Students who fail one or more sections of the examination for a second time will be dismissed from the program.

Foreign Language Requirement: Students doing SWAN research fieldwork in non-English speaking settings will be expected to have 3 semesters of a foreign language or demonstrate fluency in their field language. These students need to take classes to complete the Anthropology Foreign Language requirement (3 semesters of the same foreign language at the undergraduate level; language credits do not count towards the 90 credits needed for a Ph.D.).

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 this doctoral program is available on the SWAN (<http://clas.wayne.edu/swan>) website. Students should also consult the Graduate School's general requirements for doctoral degrees (p. 35).

Biological Sciences

Office: 1360 Biological Sciences; 313-577-2873

Chairperson: David L. Njus

Associate Chairperson: Edward M. Golenberg

<http://clas.wayne.edu/biology>

- Biological Sciences (M.A.) (p. 184)
- Biological Sciences (M.S.) (p. 184)
- Molecular Biotechnology (M.S.) (p. 184)

- Biological Sciences (Ph.D.) (p. 184)

Biological Sciences (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

The Department offers the Master of Arts degree under the *Plan C* option requiring thirty-two credits of coursework. Course requirements include the following:

Plan C: *Thirty-two credits in course work are required, 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 (<http://clas.wayne.edu/Biology/UndergraduatePrograms>).

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Biological Sciences (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

The Department offers the Master of Science degree under the *Plan A* option.

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 (<http://bulletins.wayne.edu/graduate/college-liberal-arts-sciences/biological-sciences/biological-sciences-ms/%20http://clas.wayne.edu/biology/MSCurriculum>), 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.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Molecular Biotechnology (M.S.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

This program is offered as a specially approved Plan C master's program only, requiring sixty-nine credits. Course work will be completed in accordance with the schedule set by the Program's Director, Dr. Athar Ansari. Students must consult with Dr. Ansari, each semester prior to registration. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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 Program's Director, Dr. Ansari.

Biological Sciences (Ph.D.)

Admission Requirements

In addition to the requirements of the Graduate School (p. 17) 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.

The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree. Sixty credits must include the following:

Select at least twelve credits in Biological Sciences from a core curriculum

Select no more than thirty-two credits in BIO 7996, Research Problems

BIO 8995	Graduate Seminar in Biology (minimum 4 credits)	2
BIO 9996	Lab Rotation (minimum 2 credits)	2

Select 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.

The remaining thirty credits must be earned as dissertation credit, taken in consecutive academic year semesters.

BIO 9991	Doctoral Candidate Status I: Dissertation Research and Direction	7.5
BIO 9992	Doctoral Candidate Status II: Dissertation Research and Direction	7.5
BIO 9993	Doctoral Candidate Status III: Dissertation Research and Direction	7.5
BIO 9994	Doctoral Candidate Status IV: Dissertation Research and Direction	7.5

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Qualifying examinations are administered in two parts. The first part is a written test which is taken during one of three testing periods, July at the end of the first two semesters, November in the second year, or April in the second year. A list of examination topics will be generated by the student's dissertation advisory committee at least two months before the scheduled exam.

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 dissertation advisory 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 advisory 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.

Chemistry

Office: 169 Chemistry Building; 313-577-7784

Chairperson: Matthew J. Allen; e-mail: mallen@chem.wayne.edu

Associate Chairperson: Jeremy Kodanko

Academic Services Officers: Erin Bachert, Melissa Barton

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

General Requirements for Graduate Study in Chemistry

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:

1. by receiving a grade of 'pass' on the proficiency examination; or
2. by completing a 7000-level course in the area with a grade of 'B' or higher.

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.

- Chemistry (M.A.) (p. 185)
- Chemistry (M.S.) (p. 186)
- Chemistry (Ph.D.) (p. 186)

Chemistry (M.A. Program)

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

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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.

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:

CHM 8850	Frontiers in Chemistry	1
Select two or three credits in graduate seminar.		2-3
CHM 8800	Seminar in Analytical Chemistry	
CHM 8810	Seminar in Organic Chemistry	
CHM 8820	Seminar in Inorganic Chemistry	

CHM 8830	Seminar in Physical Chemistry	
CHM 8840	Seminar in Biochemistry	
CHM 6740	Laboratory Safety	1

Select 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 level¹ 18

¹ Courses must be elected in at least four of the following fields: analytical, biological, inorganic, organic and physical chemistry.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

Chemistry (M.S. Program)

This is a professional degree for those planning to enter the chemical profession.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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.

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.*)

CHM 8850	Frontiers in Chemistry	1
Select two to three credits in seminar.		2-3
CHM 8800	Seminar in Analytical Chemistry	
CHM 8810	Seminar in Organic Chemistry	
CHM 8820	Seminar in Inorganic Chemistry	
CHM 8830	Seminar in Physical Chemistry	
CHM 8840	Seminar in Biochemistry	
CHM 6740	Laboratory Safety	1
Select 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		12
Select six credits in chemistry and/or cognate courses		6
CHM 8999	Master's Thesis Research and Direction ¹	8
Submission of a satisfactory research thesis		
Total Credits		30-31

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

Chemistry (Ph.D. Program)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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, computer 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	Seminar in Analytical Chemistry	1
CHM 8810	Seminar in Organic Chemistry	1
CHM 8820	Seminar in Inorganic Chemistry	1
CHM 8830	Seminar in Physical Chemistry	1
CHM 8840	Seminar in Biochemistry	1

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	Doctoral Candidate Status I: Dissertation Research and Direction	7.5
CHM 9992	Doctoral Candidate Status II: Dissertation Research and Direction	7.5
CHM 9993	Doctoral Candidate Status III: Dissertation Research and Direction	7.5
CHM 9994	Doctoral Candidate Status IV: Dissertation Research and Direction	7.5

(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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

Classical and Modern Languages, Literatures, and Cultures

Office: 485 Manoogian Hall; 313-577-3002

Chairperson: Anne Duggan

Academic Services Officer: Terrie Pickering

<http://www.clas.wayne.edu/languages>

- Classics (M.A.) (p. 187)
- German (M.A.) (p. 188)
- Language Learning (M.A.) (p. 188)
- Near Eastern Languages (M.A.) (p. 189)
- Romance Languages (M.A.) (p. 189)

- Modern Languages (Ph.D.) (p. 190)

Classics (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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.

Candidacy must be established by the time twelve credits have been earned.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

Latin (M.A. Concentration)

Under *Plan A*, course work must include at least twenty-four credits in Latin, exclusive of LAT 8999, and at least eight of these twenty-four credits must be in courses numbered 7000 or higher. LAT 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 LAT 7999, and 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; LAT 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, and 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; LAT 5000 does not satisfy these requirements; a final written and/or oral examination is required.

Greek (Ancient) and Latin (M.A. Concentration)

Under *Plan A*, a minimum of twelve credits in course work is required in each language (Ancient Greek and Latin) exclusive of GKA 8999 or LAT 8999. A minimum of two courses (exclusive of thesis courses) in one language must be in courses numbered 7000 or higher. GKA 5000 or LAT 5000 does not satisfy these requirements; a final written and/or oral examination is required.

Under *Plan B*, a minimum of twelve credits in course work is required in each language (Ancient Greek and Latin) exclusive of GKA 7999 or LAT 7999. A minimum of two courses (exclusive of the essay course) in one language must be in courses numbered 7000 or higher. The remaining four credits may be in Latin or Ancient Greek; alternatively, a maximum of four credits in cognate or related fields may be applied.

GKA 5000 or LAT 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. To complete the thirty-two credit requirement, four credits in either language may be added; alternatively, a maximum of four credits in cognate or related fields may be applied. GKA 5000 or LAT 5000 does not satisfy these requirements; a final written and/or oral examination is required.

Ancient Studies (M.A. Concentration)

This concentration is available only under *Plan C*. A minimum of twenty credits is required in either Ancient Greek or Latin, exclusive of GKA 5000 or LAT 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	Concepts and Techniques in Archaeology	3
AH 5210	Hellenistic Art	3
AH 5260	Classical Greek Art	3
AH 5270	Roman Painting and Sculpture	3
AH 5310	The Ancient City of Athens	3
CLA 5050	Cleopatra	3
CLA 5150	Athens and the Ancient Greek World	3-4
CLA 5190	Topics on Women in Antiquity	3
CLA 5200	Special Studies	1-4
CLA 5350/3350	Plutarch's Lives of the Noble Greeks and Romans	3
CLA 5600/3600	Religious Experience Among the Ancient Greeks and Romans	3
CLA 5700/3700	The Golden Age of Rome	3-4
CLA 5800/3800	Survey of Greek Literature	3-4
CLA 5825/3825	Survey of Latin Literature	3-4
CLA 6260	Further Studies in Mythology	3
HIS 5330	History of Ancient Greece	3
or HIS 7330	Readings in the History of Ancient Greece	
HIS 5340	History of Ancient Rome	3
or HIS 7340	Readings in the History of Ancient Rome	
HIS 5360	The Early Middle Ages: 300-1000	3
or HIS 7360	Readings in the Early Middle Ages: 300-1000	
PHI 5400	The Presocratics and Sophists	3
PHI 5410	Plato	4
PHI 5420	Aristotle	4

German (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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 who have graduate teaching assistantships are required to complete LGL 7850.

Under all Plans, the Graduate School requires a minimum of six credits at the 7000 level or above.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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 Munich 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 German M.A. advisor.

Language Learning (M.A.)

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. The program can be completed with concentrations in: Arabic, Classics, French, German, Italian, and Spanish.

Admission Requirements

An admissions moratorium is in effect for this program.

Admission to this program is contingent upon:

1. admission to the Graduate School (p. 17), 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).

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.

First Core

Language, linguistics, literature or culture courses	12
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Second Core

LGL 5750	Theories of Second Language Acquisition	3
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LGL 5850/7850	Foreign Language Instruction	3
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LGL 5860/7860	Assessment in the Foreign Language Classroom	3
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Select two of the following:		6
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LGL 5810/7810	Teaching Foreign Languages: Receptive Skills	
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LGL 5820/7820	Teaching Foreign Languages: Productive Skills	
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LGL 5830/7830	Technology in the Foreign Language Classroom	
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Third Core

Cognate area (chosen in consultation with advisor)	6
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LGL 7999	Master's Essay Direction	3
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Total Credits	36
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The Graduate School requires that a minimum of six credits be completed at the 7000-level or above. 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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Candidacy must be established by the time twelve credits have been earned.

Near Eastern Languages (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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. International applicants must satisfy English proficiency requirements as established by the Graduate School, which may require submission of TOEFL scores.

Admission Requirements consist of: Minimum undergraduate g.p.a. of 2.75 ('C+'); 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.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Candidacy must be established by the time twelve credits have been earned.

Arabic (M.A. Concentration)

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, ARB 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 (NE) 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.

Hebrew (M.A. Concentration)

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.

Romance Languages (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

French (M.A. Concentration)

Under Plans A and B: Candidates are required to take FRE 6400. 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 FRE 6400. 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 FRE 5100, FRE 5200, FRE 6400, and FRE 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.

Italian (M.A. Concentration)

Under Plans A and B: 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.

Spanish (M.A. Concentration)

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 SPA 5550 and SPA 5560 and a minimum of nine credits from SPA 5200, SPA 5300, SPA 6400 and SPA 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.

Modern Languages (Ph.D.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

Course Requirements: The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credits. 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 7010 course (Introduction to Literary Theory) and all students with a graduate teaching assistantship must take

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.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Communication Sciences and Disorders

Office: 207 Rackham Memorial Building; 313-577-3339

Chairperson: Margaret Greenwald

Graduate Officer: Derek Daniels

Undergraduate Advisors: Faith Williams

Coordinator of SLP Clinical Programs: Karen S. O'Leary

<http://www.clas.wayne.edu/CSD>

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.) and Master of Arts with a major in Speech-Language Pathology degree programs offer 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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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 (<http://www.clas.wayne.edu/csd>) at for additional information. Admission to all programs is contingent upon admission to the Graduate School (p. 17).

Accreditation

The Master of Arts in Speech-Language Pathology and the Doctor of Audiology programs are accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association, 2200 Research Blvd, Rockville, MD 20850, Telephone: 800-638-8255.

- Speech-Language Pathology (M.A.) (p. 191)
- Audiology (AuD.) (p. 191)
- Communication Sciences and Disorders (Ph.D.) (p. 191)

Speech-Language Pathology (M.A.) Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Applications must be made using the university's online application (<http://www.gradadmissions.wayne.edu/apply.php>) and the CSDCAS Centralized Application Service (<https://portal.csdcas.org>). Deadline for receipt of all application materials for fall admission is January 15.

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.

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).

Audiology (Au.D.)

The Doctor of Audiology (Au.D.) program is designed to prepare audiology professionals to meet requirements for licensure (and certification, if desired) 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.

Admission to this program is contingent upon admission to the Graduate School (p. 17). Applications must be made using the university's online application (<http://www.gradadmissions.wayne.edu/apply.php>) and the CSDCAS Centralized Application Service (<https://portal.csdcas.org>). Deadline for receipt of all application materials for fall admission is January 15.

Prerequisite courses for admission to the 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. requires successful completion of 121-125 graduate credits in the major plus written and/or oral comprehensive examinations.

Communication Sciences and Disorders (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and satisfaction departmental application requirements (p. 190).

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, SLP 9992, SLP 9993, and SLP 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

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.

Criminal Justice

Office: 3293 Faculty/Administration Building; 313-577-2705
Chairperson: Shanhe Jiang
Graduate Director: Jennifer Wareham

Administrative Assistant III: Debra Mazur
Academic Services Officer: Marianka Holloway
Academic Advisor II: Alicia Ortez
<http://www.clas.wayne.edu/CRJ>

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.

- Criminal Justice (M.S.) (p. 192)
- Criminal Justice (J.D./M.S. Joint Degree) (p. 193)

Criminal Justice (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 a cumulative weighted undergraduate g.p.a. of 3.0 or better. Applicants with an undergraduate g.p.a. between 2.75 and 2.99 may be considered for admission, but are required to take the Graduate Record Examination (GRE) and provide a written exception statement justifying why they are capable of graduate work and explaining why their undergraduate g.p.a. is below 3.0.

Applicants to the Master of Science program in Criminal Justice must:

1. complete and submit the Graduate School's online application (<http://wayne.edu/admissions/graduate>);
2. have their official transcripts mailed directly from the applicant's undergraduate school/college (transcripts from all schools attended must be submitted) to the Office of Graduate Admissions, Wayne

State University, 5057 Woodward, Suite 6000, Detroit, MI 48202 (student transcripts may not be transmitted via the applicant);

3. have two (2) letters of recommendation, preferably from former professors or instructors, submitted online; and
4. submit a personal statement.

Personal statements should answer the question why you wish to pursue a Master of Science degree in Criminal Justice and be no longer than one single-spaced page. Statements must be submitted as part of the online application process.

Questions concerning the admission process should be directed to the Criminal Justice Department at 313-577-2705.

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 a master's thesis, a master's essay, or the master's capstone seminar. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178). The degree is offered as Plan A (Thesis), Plan B (Master's Essay), or Plan C (Master's Capstone Seminar) option, as follows:

Plan A: Thirty credits in course work including a six-credit thesis (CRJ 8999).

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 credits in course work, including a three credit essay demonstrating substantial research and mastery of a selected topic (CRJ 7999).

Plan C: Thirty credits in course work, including the three credit capstone course (CRJ 7870).

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

CRJ 7010	Contemporary Criminal Justice	3
CRJ 7020	The Nature of Crime	3
CRJ 7860	Research Methods in Criminal Justice	3
Select one of the following:		3-4
CRJ 7400	Data Management and Analysis for Criminal Justice	
PS 5630	Statistics and Data Analysis in Political Science I	
SOC 6280	Social Statistics	

Area A

Select at least two of the following:		6
CRJ 7220	Delinquency and Justice	
CRJ 7230	Policing and Society	
CRJ 7240	Corrections	

Area B

Select 5 to 9 credits in electives. At least 3 elective credits in CRJ courses: 5-9

Students electing a master's thesis (Plan A) take approved electives totaling at least 5 to 6 credits

Students electing a master's essay (Plan B) take approved electives totaling at least 8 to 9 credits

Students electing a master's capstone class (Plan C) take approved electives totaling at least 8 to 9 credits

Area C

Select one of the following: 3-6

CRJ 7870 Master's Capstone Seminar in Criminal Justice

CRJ 7999 Master's Essay Direction

CRJ 8999 Master's Thesis Research and Direction

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.

Transfer Credits: The maximum number of credits that may be transferred in from other accredited colleges and universities is between six and eight semester credits for two courses. Transfer courses must be taken at the graduate level with a passing grade of 'B' or higher; the student must have had graduate status at the time the courses were taken.

Online M.S. in Criminal Justice Program

Beginning Fall 2014, students may complete the Master of Science in Criminal Justice online. Online sections of the core courses and various electives will be consistently offered. In the application for graduate admission, students must indicate whether they will be completing the M.S. in Criminal Justice in

1. the traditional program,
2. the completely online program.

While students admitted to the online program will be expected to complete almost all of their courses online, they can seek permission from the Graduate Director to take selected classes on campus.

The online program is identical to the traditional classroom-based program and focuses on a broad range of criminal justice issues, emphasizing both the problem of crime and the criminal justice system's response to it. Students learn the latest evidence-based practices for crime control, how to understand and interpret data and how to find resources to implement innovative methods.

Criminal Justice (J.D./M.S. Joint Degree)

The Law School and the Department of Criminal Justice offer a joint degree program in law and criminal justice (J.D./M.S. in Criminal Justice). Students must be separately admitted to both the Law School and the Master of Science in Criminal Justice Program.

Students must complete all the requirements for both degrees. Law School courses count for up to nine elective credits toward the Master of Science in Criminal Justice degree. A maximum of four Criminal Justice courses may be applied to the requirements for the J.D. degree. A student

must complete the first year of law school before any Criminal Justice courses may be taken toward the joint degree. Criminal Justice courses may be taken concurrently with law school courses during the second and subsequent years. The first step for the joint degree is to be admitted into the law program at Wayne State University. The second step is to contact the Law School advising office and the Department of Criminal Justice Graduate Advisor to inquire on how to apply for the joint degree program.

Economics

Office: 2074 Faculty/Administration Building; 313-577-3345

Chairperson: Stephen J. Spurr

Administrative Assistant: Delores G. Tennille

<http://www.clas.wayne.edu/Economics/>

The Department encourages applications from students with broad intellectual interests as well as strong quantitative skills, regardless of their undergraduate majors.

The M.A. in Economics can be a terminal degree leading to careers in business, government and non-governmental organizations, 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 academia, research, and business.

- Economics (M.A.) (p. 193)
- Economics (Ph.D.) (p. 194)
- Economics and Law (M.A./J.D. Joint Degree) (p. 195)

Economics (M.A.)

Admission Requirements

Admission to this program is contingent on admission to the Graduate School (p. 17). 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) or other test acceptable to the Graduate School.

Applicants are expected to have completed the following courses or their equivalents as undergraduate or post-bachelor students:

ECO 5000	Intermediate Microeconomics	4
ECO 5050	Intermediate Macroeconomics	4
ECO 5100	Introductory Statistics and Econometrics	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, but in this case they must be completed before taking 6000 or 7000-level courses.

Thirty-two graduate credits are required. Although the University offers various plans for M.A. degrees, the Department of Economics offers the Master of Arts degree under Plan C only, as described below.

For the M.A. Program, students must take:

Theory Core

Take as early in the program as possible		
ECO 6000	Price and Allocation Theory	4
ECO 6050	Macroeconomics	4
ECO 6100	Introduction to Econometrics	4

Sequence Courses

Select one of the following: 8

ECO 7050 & ECO 7060	Macroeconomic Theory I and Macroeconomic Theory II	
ECO 7000 & ECO 7010	Microeconomic Theory I and Microeconomic Theory II	
ECO 7100 & ECO 7110	Econometrics I and Econometrics II	
ECO 7200 & ECO 7210	Industrial Organization I and Industrial Organization II	
ECO 7300 & ECO 7310	International Trade Theory and International Monetary Theory	
ECO 7400 & ECO 7410	Labor Economics and Human Resources and Economics of Human Resources	
ECO 7550 & ECO 7560	Economics of Health Care I and Economics of Health Care II	

Elective Courses

Three 6000- or 7000-level courses	12
Total Credits	32

Students who concentrate in fields other than Health Economics or Industrial Organization must have taken a full year of calculus, at a minimum. In addition, the permission of the M.A. Director and the instructor is required. Neither a thesis nor an essay is required. Three written examinations are required. Students must pass written exams covering the microeconomics and macroeconomics core courses and a written exam covering their 7000 level concentration.

Students should file a Plan of Work with the M.A. Director as soon as possible after being admitted to the M.A. Program. A Plan of Work developed early helps students make sure that they take courses in the right order and complete their program quickly and efficiently.

Candidacy: The Graduate School does not authorize candidacy unless the applicant's grade point average is 3.0 or better. To be eligible for candidacy, the student must also file a Plan of Work, approved by the master's program advisor, with the graduate officer of the College of Liberal Arts and Sciences. The M.A. Director requires all M.A. students to file a Plan of Work by the end of the first semester in the Economics M.A. program. The Graduate School does not allow M.A. students to register if a Plan of Work has not been filed by the time twelve graduate credits have been earned.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Economics (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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). All candidates must submit a Statement of Purpose as part of their applications.

Applicants are expected to arrive with the following preparation:

ECO 5000	Intermediate Microeconomics	4
ECO 5050	Intermediate Macroeconomics	4
ECO 5100	Introductory Statistics and Econometrics	4

MAT 2010 and MAT 2020 or similar introductory courses in differential and integral calculus providing minimal mathematics requirements. Additional courses in calculus and linear algebra are highly desirable.

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. 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:

Completion of a Plan of Work ¹

Completion of coursework in economic theory: ²		
ECO 7020	Fundamentals of Economic Analysis I	4
ECO 7021	Fundamentals of Economic Analysis II	4
ECO 7000	Microeconomic Theory I	4
ECO 7010	Microeconomic Theory II	4
ECO 7050	Macroeconomic Theory I	4
ECO 7060	Macroeconomic Theory II	4

Completion of coursework in two of the following five fields: advanced macroeconomics, health economics, industrial organization, international economics, and labor economics.

Completion of coursework in quantitative methods:		
ECO 7100	Econometrics I	4
ECO 7110	Econometrics II	4
ECO 7120	Econometrics III	4

An oral examination on research

- ¹ 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 Proficiency must be demonstrated by passing qualifying examinations in microeconomic theory, macroeconomic theory, and two selected fields.

The thirty credit dissertation registration requirement is fulfilled by registering for the courses ECO 9991, ECO 9992, ECO 9993, and ECO 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

Economics and Law (M.A./J.D. Joint Degree)

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 in law. 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.

Employment and Labor Relations

Employment and Labor Relations (M.A. Program)

Office: 5401 Cass (255 Walter P. Reuther Library); 313-577-0175

Director: Marick Masters

<http://www.clas.wayne.edu/maelr/>

- Employment and Labor Relations (M.A.) (p. 195)

Employment and Labor Relations (M.A.)

The Master of Arts in Employment and Labor 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 and Information Systems 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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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, BA 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.

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	3
ELR 7000	Introduction to Labor and Employment Relations	3
ELR 7450	Employment Relations Law in North America	3
ELR 8500	Strategic Analysis of North American Labor and Human Resources Issues (Capstone course: prerequisites include all other Core Courses)	3
MGT 7640	Management of Human Resources	3
MGT 7750	Labor Relations and Collective Bargaining	3
MGT 7780/ DR 7210	Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice	3
PSY 6570	Research Methods in Industrial/Organizational Psychology	3
Total Credits		24

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. For courses specifically associated with this program see Employment and Labor Relations Courses (ELR).

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.

Academic Scholarship: 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.* All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

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.

English

Office: Room 9408, 5057 Woodward; 313-577-2450

Chairperson: Kenneth Jackson

Associate Chairperson: Lisa Maruca

Director of Composition: Jeff Pruchnic

Director of Graduate Studies: Caroline Maun

Academic Services Officer: Tia Finney

<http://clas.wayne.edu/english>

The English Department is engaged in researching and re-conceptualizing 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 graduate program is designed for students who show promise in the formal study and teaching of language, literature, film, rhetoric, composition, and culture, and seek to pursue the Master of Arts and/or Doctor of Philosophy in these areas. The M.A. program can be used to prepare for doctoral work and/or as a terminal degree used to develop expertise in particular areas of study (e.g., professional writing, creative writing). The doctoral program provides focus for all graduate studies in English and ensures that students receive an education at the highest possible level.

- English (M.A.) (p. 196)
- English (Ph.D.) (p. 196)

English (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Application deadlines are November 1 (for Winter admission) and March 1 (for Fall admission). The English Department requires that all applicants provide a statement of purpose, two academic letters of reference, and sample essay from a previous English course.

The Master of Arts degree is offered as a Plan A, B, or C option.

Plan A: Thirty-three credits, including a three-to-six-credit thesis.

Plan B: Thirty-three credits, including a three-credit essay and demonstration of proficiency in at least one foreign language (for further details, consult the Director of Graduate Studies).

Plan C: Thirty-three credits, including a portfolio of representative work approved by the Director of Graduate Studies.

The M.A. program in English is designed to prepare students to go on to doctoral work or to train 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:

Select five 7000-level courses in English at Wayne State University

Select one of the following:

- | | |
|----------|--|
| ENG 7999 | Master's Essay Direction |
| ENG 8999 | Master's Thesis Research and Direction |
- the submission of a zero-credit portfolio

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, B, or C described above.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

English (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Students may apply to the Ph.D. program with either a B.A. or M.A. degree. Students that apply with a B.A. will have the opportunity to receive an M.A. degree before the completion of their Ph.D. 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 a statement of purpose indicating areas of research interest, at least two academic letters of reference, a sample of the student's scholarly or critical writing, and GRE General Test Scores.

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, ENG 9992, ENG 9993, ENG 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, or ENG 6004, Pedagogical Practicum II, for graduate teaching assistants)

The Ph.D. program has three concentrations: Literary and Cultural Studies, Rhetoric and Composition Studies, and Film and Media Studies. Each doctoral student must select a concentration early enough in her or his program to fulfill the course distribution requirements, which include:

All new Ph.D. students are required to take the following introductory course:

- | | |
|----------|---|
| ENG 7001 | Issues in Critical Theory (offered every fall term) |
|----------|---|

Select at least two courses in concentration ¹

Select at least two courses outside concentration ²

Select at least two 8000-level seminars in concentration ³

Select at least one course focused on contemporary pedagogical theory and best practices in teaching⁴

ENG 6002	Teaching of Literary and Cultural Studies
ENG 7064	The Teaching of Writing
ENG 7065	Writing Technologies

- ¹ These courses provide students with a broad coverage of representative texts and issues.
- ² 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.).
- ³ 8000-level seminars are more specialized explorations of a research problem within a professor's area of expertise.
- ⁴ Consult the Director of Graduate Studies for a list of approved classes.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Graduate Teaching Assistants: 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 in which she or he holds the assistantship.

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. Students will also need to list two (or more) courses that support the declared 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 six-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 English Department. Members of this committee may or may not have been members of the student's QE Committee.

Dissertation Defense: A final Public Lecture Presentation-Defense, after the dissertation has been completed, is also required.

Geology

Office: 0224 Old Main; 313-577-2506

Chairperson: David Njus

Academic Services Officers: Cody Bailey, David Lowrie
<http://www.clas.wayne.edu/Geology/>

- Geology (M.S.) (p. 197)

Geology (M.S.)

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 provide the students 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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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, structural geology; plus a course in any two of the following fields: paleontology, stratigraphy, geological site assessment, geostatistics, and geophysics.

Two semesters of calculus, a year of chemistry and a year of physics are also necessary. 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 and a personal statement describing goals and motivations for pursuing an M.S. Geology degree 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.

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:

Students must select six following courses:		24
GEL 5000	Geological Site Assessment	
GEL 5120	Environmental Geochemistry	
GEL 5150	Soils and Soil Pollution	
GEL 5210	Applied Geophysics	
GEL 5450	Hydrogeology	

GEL 5510	Environmental Fate and Transport of Pollutants	
GEL 5600	Special Topics in Geology	
GEL 6400	Nuclear Geology	
GEL 6500	Economic Geology	
GEL 8999	Master's Thesis Research and Direction	8
Total Credits		32

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. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

The graduate program may be modified by the Geology Department to conform to the needs of individual candidates.

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 may be of particular value.

History

Office: 3094 Faculty/Administration Building; 313-577-2525
Chairperson: Elizabeth V. Faue
<http://www.clas.wayne.edu/History/>

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.

The M.A., M.A.P.H, 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. and M.A.P.H. 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 to two years of study will be required for the completion of the M.A. and M.A.P.H.; fulfillment of all requirements for the Ph.D. will usually involve four years of full-time study beyond the Master of Arts degree.

- History (M.A.) (p. 198)
- History (M.A.P.H.) (p. 199)
- History (Ph.D.) (p. 199)
- History and Law (M.A./J.D. Joint Degree) (p. 200)
- History and Library and Information Sciences (M.A./M.L.I.S. Joint Degree) (p. 200)
- World History (Bridge Graduate Certificate) (p. 200)

History (M.A.) Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 (early admission), May 15
 Admission to the Winter Term November 1
 Admission to the Spring/Summer Term February 1

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.

Candidates for the master's degree in history must complete a total of thirty-five credits under Plans A or B as outlined below. All students must take HIS 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.

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;

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.

Candidacy must be established by filing an official Plan of Work with the Department when twelve credits have been earned.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

History (M.A.P.H.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Earning a graduate degree is an undertaking that 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 (early admission), May 15
- Admission to the Winter Term November 1
- Admission to the Spring/Summer Term February 1

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. 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, at least one from former instructor-the other may be from a supervised internship or employment in a historical agency or library/archive, and provide copies of transcripts from each college or university previously attended.

For the Master's in Public History degree at least 33 credits are required. 15 credits will be completed in core courses that include an internship and master's project. 18 credits will be completed in a public history track. Students are required to take at least three courses at the 7000-level or above. Candidates must petition the Graduate Committee for any exceptions to the M.A.P.H. requirements.

HIS 7835	Public History: Theory and Method	3
HIS 7855	Memory and History	3
	One methodology course relevant to selected track and professional goals	3
	One additional core course	3
	Six courses required for the track selected	18
HIS 7998	Internship in Public History	3
Total Credits		33

Students will select a track no later than the end of their first semester of coursework. MAPH students can select a track in one of the following areas:

- Museum Studies
- Cultural Resource Management
- Public Policy

- African American History and Culture
- Labor and Urban History
- Gender, Sexuality, and Women's Studies

Candidacy must be established by filing an official Plan of Work with the Department when twelve credits have been earned.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

History (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 1 is strictly followed.

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, the Graduate Committee will be looking for a strong background in history comparable to those holding the M.A. in the 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.

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. HIS 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 fulfilled by the courses HIS 9991, HIS 9992, HIS 9993, and HIS 9994.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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 American history) to the appropriate University language department. With permission of the graduate director, a student may substitute certain specific auxiliary skills, such as statistics or oral history for one 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 includes geographical-chronological fields and topical fields. Students must choose at least two geographical-chronological fields, one of which must be a geographic-chronological field outside American history.

Geographical-chronological fields

- ancient (not for dissertation topic)
- medieval
- early modern Europe
- modern Europe
- France
- Germany
- Great Britain
- Russia
- Africa
- America to 1877
- America since 1865

Topical fields

- African-American
- constitutional and legal
- economic
- gender and women's history
- immigration/ethnic
- labor
- urban history and the history of United States foreign relations
- archival administration

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 two major and one minor 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.

History and Law (M.A./J.D. Joint Degree)

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.

History and Library and Information Sciences (M.A./M.L.I.S. Joint Degree)

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. More details, including program requirements, are available in the School of Library and Information Science (p. 226) section of this bulletin.

World History (Bridge Graduate Certificate)

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 (p. 17). 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.

The certificate requires fifteen credits of graduate-level course work including:

HIS 8310	Seminar in World History	3
Select twelve credits of courses including three continental areas chosen from:		12
Africa		
Asia		
Latin America		
Middle East		
Europe		
<hr/>		
Total Credits		15

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Linguistics

Office: Room 10303, 5057 Woodward; 313-577-8642

Director: Ljiljana Progovac

<http://www.clas.wayne.edu/linguistics>

Linguistics is devoted to the scientific study of language structure and use. The Linguistics Program at Wayne State offers an interdisciplinary approach to this field, permitting students to explore a wide range of topics and issues in language research. The program is administered by a director and an advisory committee of participating faculty who regularly teach courses for the program. The core linguistics courses are offered on a regular basis. Elective courses are offered 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.

- Linguistics (M.A.) (p. 201)

Linguistics (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, applicants to the linguistics program must have taken at least one year of a foreign language.

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 (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Degree Requirements

Required Courses

LIN 5290	Phonology	3
LIN 5300	Syntax	3
LIN 5700	Introduction to Linguistic Theory	3
Language-use Course ^{1,2}		3
Select one of the following:		
LIN 5210	Arabic Sociolinguistics	
LIN 5320	Language and Societies	
LIN 5760	American Dialects	
LIN 5770	Sociolinguistics	
LIN 5900	Culture, Language and Cognition	
LIN 6710	Psycholinguistics	
LIN 6720	Topics in Language (Field Methods)	
LIN 6720	Topics in Language (Pidgins and Creoles)	
LIN 6720	Topics in Language (Pragmatics)	
LIN 6720	Topics in Language (Language Variations)	
LIN 7720	Advanced Studies in Language Use	
LIN 7770	Discourse Analysis	
Seminar Course ¹		3
Select one of the following:		
LIN 7320	Seminar in Hispanic Linguistics	
LIN 7710	Advanced Studies in Linguistic Structure	
LIN 7720	Advanced Studies in Language Use	
LIN 7770	Discourse Analysis	
Elective Courses		15
The remaining courses are electives chosen in consultation with an advisor. Courses may be chosen from any one or more of the areas listed on the next tab. (A maximum of twelve credits may be earned in LIN 6720).		
LIN 7999	Master's Essay Direction	3
<hr/>		
Total Credits		33

¹ The language-use and seminar course requirements may not be satisfied by the same course.

² The language use course involves either the analysis of speech data acquired in fieldwork or theories that address language use.

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.

Elective Courses

Selected in consultation with an advisor, courses may be chosen from any one or more of the areas listed below. (A maximum of twelve credits may be earned in LIN 6720).

(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	4
LIN 5200	Modal Logic	4
LIN 5220	Introduction to Chinese Linguistics	3
LIN 5230	Structure of Arabic	3
LIN 5240	Grammar of Chinese	3
LIN 5570	Philosophy of Language	4

LIN 5715	Morphology	3
LIN 5745	Semantics	3
LIN 5730	English Grammar	3
LIN 5900	Culture, Language and Cognition	3
LIN 6710	Psycholinguistics	3
LIN 6720	Topics in Language (Field Methods)	3
LIN 6720	Topics in Language (Typology)	3
LIN 7320	Seminar in Hispanic Linguistics	3
LIN 7710	Advanced Studies in Linguistic Structure	3
FRE 6400	Introduction to French Linguistics	3
SPA 6400	Introduction to Hispanic Linguistics	3

(c) Language Variation and Change

LIN 5100	Languages of Asia	3
LIN 5320	Language and Societies	3
LIN 5715	Morphology	3
LIN 5760	American Dialects	3
LIN 5770	Sociolinguistics	3
LIN 6720	Topics in Language (Historical Linguistics)	3
LIN 6720	Topics in Language (History of English)	3
LIN 6720	Topics in Language (Language Variation)	3
LIN 6720	Topics in Language (Typology)	3
LIN 6720	Topics in Language (Field Methods)	3
LIN 6720	Topics in Language (Language Evolution)	3
LIN 7300	Comparative Romance Linguistics	3
LIN 7320	Seminar in Hispanic Linguistics	3
LIN 7720	Advanced Studies in Language Use	3
ITA 6400	Languages of Italy	3
SPA 7510	History of the Spanish Language	3

(d) Language Acquisition and Processing

LIN 5080	Phonetics	3
LIN 5360	Normal Language Acquisition and Usage	3
LIN 5750	Theories of Second Language Acquisition	3
LIN 5760	American Dialects	3
LIN 5900	Culture, Language and Cognition	3
LIN 6710	Psycholinguistics	3
LIN 7010	Acoustics of Speech	3
LIN 7320/ SPA 8420	Seminar in Hispanic Linguistics	3
FRE 5200	French Phonetics and Pronunciation	3
PSY 7080	Human Cognition	3
PSY 7440	Cognitive Development	3
SLP 5300	Introduction to Speech-Language Pathology	3
SPA 5200	Spanish Phonetics	3

(e) Sociolinguistics and Discourse/Pragmatics

LIN 5210	Arabic Sociolinguistics	3
LIN 5320	Language and Societies	3
LIN 5760	American Dialects	3
LIN 5770	Sociolinguistics	3
LIN 6720	Topics in Language (Pragmatics)	3
LIN 6720	Topics in Language (Language Variation)	3
LIN 6720	Topics in Language (Language and Gender)	3
LIN 6720	Topics in Language (Historical Linguistics)	3
LIN 7320	Seminar in Hispanic Linguistics	3

LIN 7720	Advanced Studies in Language Use	3
LIN 7770	Discourse Analysis	3

Mathematics

Office: 1150 Faculty/Administration Building; 313-577-2479

Chairperson: Hengguang Li

Associate Chairperson: Daniel Drucker

Academic Services Officer: Mary Klamo

Academic Advisor: Kimberly Morgan

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

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.

- Mathematics (M.S.) (p. 205)
- Mathematics (M.A.) (p. 204)
- Mathematical Statistics (M.A.) (p. 203)
- Applied Mathematics (M.A.) (p. 202)
- Mathematics (Ph.D.) (p. 206)

Applied Mathematics (M.A.)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Applicants for the Master of Arts in Applied Mathematics should have a good background in the area in which they are planning to apply mathematics, but a bachelor's degree in mathematics is not required. Applicants must also have attained twelve credits beyond the calculus sequence *or* knowledge equivalent to the following:

MAT 2010 & MAT 2020 & MAT 2030	Calculus I and Calculus II and Calculus III	12
MAT 2250	Elementary Linear Algebra	3
MAT 2350	Elementary Differential Equations	3
MAT 5070	Elementary Analysis	4
MAT 5420	Algebra I	4
CSC 2110	Computer Science I	3

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, Plan A (master's thesis) and Plan C (course work only) options are available with the approval of the Departmental Graduate Committee.

1. A minimum of thirty-two credits.
2. A minimum of twenty credits in mathematics courses not previously completed from the following list (additional courses may be approved on an individual basis):

MAT 5030	Statistical Computing and Data Analysis	3
MAT 5100	Numerical Methods I	3
MAT 5110	Numerical Methods II	3
MAT 5210	Advanced Calculus	4
MAT 5220	Partial Differential Equations	4
MAT 5230	Complex Variables and Applications	4
MAT 5280	Methods of Differential Equations	3
MAT 5350	Logical Systems I	4
MAT 5400	Elementary Theory of Numbers	3
MAT 5410	Applied Linear Algebra	4
MAT 5420	Algebra I	4
MAT 5430	Algebra II	4
MAT 5520	Introduction to Topology	3
MAT 5530	Elementary Differential Geometry and its Applications	3
MAT 5600	Introduction to Analysis I	4
MAT 5610	Introduction to Analysis II	3
MAT 5700	Introduction to Probability Theory	4
MAT 5710	Introduction to Stochastic Processes	3
MAT 5740	The Theory of Interest	3
MAT 5770	Mathematical Models in Operations Research	3
MAT 5800	Introduction to Mathematical Statistics	4
MAT 5830	Applied Time Series	3
MAT 5870	Methods of Optimization	3
MAT 6420	Advanced Linear Algebra	3
MAT 6500	Topology I	3
MAT 6600	Complex Analysis	2-4
MAT 6830	Design of Experiments	3
MAT 6840	Linear Statistical Models	3
MAT 7200	Ordinary Differential Equations	3
MAT 7210	Partial Differential Equations	3
MAT 7220	Advanced Numerical Analysis	3
MAT 7230	Finite Element Methods	3
MAT 7240	Advanced Partial Differential Equations	3
MAT 7400	Advanced Algebra I	4
MAT 7410	Advanced Algebra II	3
MAT 7500	Topology II	3
MAT 7510	Algebraic Topology I	3
MAT 7520	Algebraic Topology II	3
MAT 7600	Real Analysis I	3
MAT 7610	Real Analysis II	3
MAT 7630	Introduction to Real Harmonic Analysis	3
MAT 7700	Advanced Probability Theory I	3
MAT 7710	Advanced Probability Theory II	3
MAT 7810	Advanced Statistics Theory I	3
MAT 7820	Advanced Statistics Theory II	3

3. A minimum of eight additional credits in the student's declared minor area.

4. A final oral examination. All students in Plan C are required to take this examination. Students in Plan A or Plan B may, upon recommendation of the thesis or essay advisor, be excused from the final oral examination by the Departmental Graduate Committee.
5. A public lecture on the thesis or essay for each student in Plan A or Plan B.
6. By the time twelve credits have been earned, each student must submit a Plan of Work, approved by a departmental advisor, to the director of the program. In the Plan of Work, the student must choose Plan A, Plan B, or Plan C. The Plan of Work must be approved by the Departmental Graduate Committee, at which time the student will be advanced to candidacy. Students are not allowed to take more than twelve credits in the program unless candidacy has been established.

Each student in this program is ordinarily required to write a project-type essay for three credits under the direction of a supervisor in the Department of Mathematics 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 adviser in the major area can be the same as the adviser in the minor area.) The selection of advisors and topics must be approved by the Departmental Graduate Committee.

NOTE: The following courses cannot be applied towards this degree:

MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5070	Elementary Analysis	4

The following courses can only be applied towards requirement three for the minor in education:

MAT 6130	Discrete Mathematics	3
MAT 6140	Geometry: An Axiomatic Approach	3
MAT 6150	Probability and Statistics for Teachers	4
MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	4
MAT 6180	Algebra: Group Theory Through Exploration, Conjecture, and Proof	3
MAT 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Mathematical Statistics (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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, MAT 2020, MAT 2030, MAT 2250, and MAT 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 Department of Mathematics strongly recommends undergraduate course work along the line of option A, described under Bachelor's Degrees in the undergraduate bulletin.

The Master of Arts in Mathematical Statistics is offered under the following options:

Plan A: *Twenty-four credits in course work plus an eight credit thesis in the area of mathematical statistics.*

Plan B: *Twenty-seven credits in course work plus a three credit essay in the area of mathematical statistics.*

Plan C: *Thirty credits in course work.*

Degree Requirements

At least twenty-four credits in course work from the Department of Mathematics, including credits earned toward a thesis or essay under Plan A or Plan B options.

Select one of the following (if not previously taken):

MAT 5420 Algebra I
& MAT 5430 and Algebra II

MAT 7400 Advanced Algebra I

Select one of the following (if not previously taken):

MAT 5600 Introduction to Analysis I
& MAT 5610 and Introduction to Analysis II

MAT 7600 Real Analysis I

Select one of the following (if not previously taken):

MAT 5700 Introduction to Probability Theory
& MAT 5710 and Introduction to Stochastic Processes

MAT 7700 Advanced Probability Theory I

Select one of the following (if not previously taken):

MAT 5800 Introduction to Mathematical Statistics

MAT 7810 Advanced Statistics Theory I

Select at least two additional courses of the following:¹

MAT 5030 Statistical Computing and Data Analysis

MAT 5770 Mathematical Models in Operations Research

MAT 5830 Applied Time Series

MAT 5870 Methods of Optimization

MAT 6420 Advanced Linear Algebra

MAT 6600 Complex Analysis

MAT 6830 Design of Experiments

MAT 6840 Linear Statistical Models

MAT 7700 Advanced Probability Theory I

MAT 7710 Advanced Probability Theory II

MAT 7810 Advanced Statistics Theory I

MAT 7820 Advanced Statistics Theory II

¹ MAT 7700 is recommended. Other courses may be approved by the Departmental Graduate Committee on an individual basis.

A final oral examination. 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 adviser, be excused from the final oral examination by the Departmental Graduate Committee.

A public lecture on the thesis or essay for each student in Plan A or Plan B.

By the time twelve credits have been earned, each student must submit a Plan of Work, approved by a departmental adviser, to the director of the program. In the Plan of Work, the student must choose Plan A, Plan

B, or Plan C. The Plan of Work must be approved by the Departmental Graduate Committee, at which time the student will be advanced to candidacy. Students are not allowed to take more than twelve credits in the program unless candidacy has been established.

NOTE: Candidates for the Master of Arts in Mathematical Statistics are exempt from the Graduate School requirement that six credits in the major field must be in courses numbered 7000 and above.

NOTE: The following courses cannot be applied towards this degree:

MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5070	Elementary Analysis	4
MAT 6130	Discrete Mathematics	3
MAT 6140	Geometry: An Axiomatic Approach	3
MAT 6150	Probability and Statistics for Teachers	4
MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	4
MAT 6180	Algebra: Group Theory Through Exploration, Conjecture, and Proof	3
MAT 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Mathematics (M.A.)

(An admissions moratorium is currently in effect for this program.)

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:

At least twenty-four credits of course work from the Department of Mathematics. Credits earned toward a thesis or essay in accordance with Plan A or Plan B may be included among these twenty-four credits.

MAT 5420	Algebra I (if not previously taken)	4
MAT 5430	Algebra II (if not previously taken)	4
MAT 5600 & MAT 5610	Introduction to Analysis I and Introduction to Analysis II (if not previously taken)	7
MAT 6500 or MAT 6600	Topology I (if not previously taken) or Complex Analysis	3
Select at least two of the following (if not previously completed): ¹		6-8
MAT 5100	Numerical Methods I	
MAT 5220	Partial Differential Equations	
MAT 5230	Complex Variables and Applications	
MAT 5410	Applied Linear Algebra	
MAT 5530	Elementary Differential Geometry and its Applications	

MAT 5700	Introduction to Probability Theory	
MAT 5770	Mathematical Models in Operations Research	
MAT 5800	Introduction to Mathematical Statistics	
MAT 5870	Methods of Optimization	
Election of at least one additional mathematics course numbered 6000, or higher, with the exception of MAT 7999, MAT 8999 and teacher preparation courses.		2-4
Total Credits		26-30

¹ These courses represent several areas of applied mathematics.

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.

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.

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 advisor, be excused from the final oral examination by the Graduate Committee.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Mathematics (M.S.)

The M.S. in Mathematics is the most rigorous program at the Master's level and is designed for students who intend to study at the Ph.D. level in mathematical sciences, as well as for other students who are looking for a challenge.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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, MAT 2020, MAT 2030, MAT 2250, and MAT 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 Department of Mathematics strongly recommends undergraduate course work along the line of option A, described under Bachelor's Degrees in the undergraduate bulletin.

The Master of Science in Mathematics is offered under the following options:

Plan A: Twenty-six 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.

Degree Requirements

At least twenty-four credits in course work from the Department of Mathematics, including credits earned toward a thesis or essay under Plan A or Plan B options.

Select one of the following (if not previously completed):

MAT 5420 Algebra I
& MAT 5430 and Algebra II
& MAT 6420 and Advanced Linear Algebra

MAT 6420 Advanced Linear Algebra
& MAT 7400 and Advanced Algebra I

Select one of the following (if not previously taken):

MAT 5600 Introduction to Analysis I
& MAT 5610 and Introduction to Analysis II
& MAT 6600 and Complex Analysis

MAT 6600 Complex Analysis
& MAT 7600 and Real Analysis I

Select one of the following:

MAT 6500 Topology I (if not previously taken)

MAT 7500 Topology II

Select at least two of the following (other courses may be approved by the Departmental Graduate Committee on an individual basis):

MAT 5030 Statistical Computing and Data Analysis

MAT 5100 Numerical Methods I

MAT 5110 Numerical Methods II

MAT 5210 Advanced Calculus

MAT 5220 Partial Differential Equations

MAT 5230 Complex Variables and Applications

MAT 5280 Methods of Differential Equations

MAT 5400 Elementary Theory of Numbers

MAT 5410 Applied Linear Algebra

MAT 5520 Introduction to Topology

MAT 5530 Elementary Differential Geometry and its Applications

MAT 5700 Introduction to Probability Theory

MAT 5710 Introduction to Stochastic Processes

MAT 5770 Mathematical Models in Operations Research

MAT 5800 Introduction to Mathematical Statistics

MAT 5870 Methods of Optimization

MAT 6840 Linear Statistical Models

MAT 7200 Ordinary Differential Equations

MAT 7210 Partial Differential Equations

MAT 7220 Advanced Numerical Analysis

MAT 7230 Finite Element Methods

MAT 7240 Advanced Partial Differential Equations

MAT 7400 Advanced Algebra I

MAT 7410 Advanced Algebra II

MAT 7500 Topology II

MAT 7510 Algebraic Topology I

MAT 7520 Algebraic Topology II

MAT 7600 Real Analysis I

MAT 7610 Real Analysis II

MAT 7630 Introduction to Real Harmonic Analysis

MAT 7700	Advanced Probability Theory I
MAT 7710	Advanced Probability Theory II
MAT 7810	Advanced Statistics Theory I
MAT 7820	Advanced Statistics Theory II

A final oral examination. 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 adviser, be excused from the final oral examination by the Departmental Graduate Committee.

A public lecture on the thesis or essay for each student in Plan A or Plan B.

By the time twelve credits have been earned, each student must submit a Plan of Work, approved by a departmental adviser, to the director of the program. In the Plan of Work, the student must choose Plan A, Plan B, or Plan C. The Plan of Work must be approved by the Departmental Graduate Committee, at which time the student will be advanced to candidacy. Students are not allowed to take more than twelve credits in the program unless candidacy has been established.

NOTE: Candidates for the Master of Science in Mathematics are exempt from the requirement of the Graduate School that six credits in the major field must be in courses numbered 7000 and above.

NOTE: The following courses cannot be applied towards this degree:

MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5070	Elementary Analysis	4
MAT 6130	Discrete Mathematics	3
MAT 6140	Geometry: An Axiomatic Approach	3
MAT 6150	Probability and Statistics for Teachers	4
MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	4
MAT 6180	Algebra: Group Theory Through Exploration, Conjecture, and Proof	3
MAT 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3

Mathematics (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

All applicants for the degree of Doctor of Philosophy with a major in mathematics are urged first to study the general doctoral degree requirements (p. 35) and to plan their programs so that all those requirements are fulfilled in the proper order and at the proper times. On the next tab are the major steps in earning this degree. Specific requirements of the Mathematics Department are included.

Candidates for the doctoral degree must complete ninety credits in course work beyond the bachelor's degree, including thirty credits

of dissertation direction. Specific requirements for this degree in mathematics are as follows:

Preliminary Examinations: These are two-hour written examinations covering undergraduate level material from a sophisticated point of view. Students are required to pass a preliminary exam in Algebra or Analysis, as well as one additional exam from the following four choices:

- Algebra
- Analysis
- Applied Mathematics
- Probability and Statistics

Students may choose to take exams in their first semester in the Ph.D. program, in which case they must satisfy the requirements by the end of their second semester; or they may choose to take exams in their second semester, in which case they must satisfy the requirements by the end of their third semester. Students must select exams at the beginning of each semester, to be taken later in that semester.

Under special circumstances, the Departmental Graduate Committee may approve petitions on an individual basis for exceptions to these rules.

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 earn a grade of 'B' or better in one course in each of the three subject areas in which they do not pass a Preliminary Examination. The courses may be selected from the following choices:

MAT 7400	Advanced Algebra I	4
MAT 7600	Real Analysis I	3
MAT 7200	Ordinary Differential Equations	3
or MAT 7210	Partial Differential Equations	
MAT 7700	Advanced Probability Theory I	3
or MAT 7810	Advanced Statistics Theory I	
MAT 7500	Topology II	3
or MAT 7510	Algebraic Topology I	

As a general rule, students are expected to take at least one required course each semester until they fulfill their course requirements. Under special circumstances, the Departmental Graduate Committee may approve petitions on an individual basis for exceptions to these rules.

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.

Dissertation: The thirty credit dissertation registration requirement is fulfilled by registering for the courses MAT 9991, MAT 9992, MAT 9993, and MAT 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Defense of Dissertation: Candidates must pass a final oral examination covering their research after the candidate's advisor has approved the completed dissertation.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Nutrition and Food Science

Office: 3009 Science Hall; 313-577-2500

Chairperson: Ahmad R. Heydari

Graduate Officer: Pramod Khosla

<http://www.clas.wayne.edu/NFS/>

- Dietetics (Post Bachelor Certificate) (p. 207)
- Nutrition and Food Science (M.A.) (p. 207)
- Nutrition and Food Science (M.S.) (p. 208)
- Nutrition and Food Science and Public Health (M.A./M.P.H. Joint Degree) (p. 208)
- Nutrition and Food Science (Ph.D.) (p. 209)

Dietetics (Post-Bachelor Certificate)

This program is available to students admitted to the Coordinated Program in Dietetics (CPD) who already have an undergraduate degree. Completion of the CPD makes graduates of the program eligible to take the National Registration Examination for Dietitians, which, when successfully completed, confers the legal designation of Registered Dietitian.

Admission Requirements

Students who have received an undergraduate degree from Wayne State University should contact the department for application procedures. Students who have received an undergraduate degree from another institution must complete the Application for Undergraduate Admission and have transcripts of previous work sent directly to the Office of Admissions. Application to the CPD is separate from that to the University (CPD applications should be obtained from the department office), and applications are accepted only once yearly; deadline is April 1 for program entry the following fall semester.

Students with a dietetics degree generally will have fulfilled all prerequisite course requirements for the Bachelor of Science in Dietetics (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-science-bs>) degree. Any courses in which the student had received a grade of D or below must be repeated; any dietetics courses in which the student has received a grade of C- plus or below must be repeated. Dietetics courses include food service management, medical nutrition therapy (also called clinical nutrition or

diet therapy), and community nutrition. Following successful completion of all Core Courses in the undergraduate degree program, the student will elect the Core Courses for the Post-Bachelor Certificate in Dietetics.

Students who possess an undergraduate degree that is not in dietetics do not need to obtain a second undergraduate degree in dietetics, but they must complete all Core Courses for the Bachelor of Science in Dietetics, or their equivalents at other universities. Students in this category should consult with a dietetics advisor at their earliest opportunity. Following successful completion of all Core Courses in the undergraduate degree program, the student will elect the Core Courses for the Post-Bachelor Certificate in Dietetics.

Core Courses

NFS 4100	Nutrition Care Process I	2
NFS 4120	Nutrition Care Process II	2
NFS 4210	Dietetic Practice II	10
NFS 4220	Dietetic Practice III	10
NFS 5200	Advanced Dietetics	3
NFS 5360	Management of Nutritional Care and Services	3
NFS 6860	Controversial Issues in Clinical Nutrition: Dietetics	2
Total Credits		32

Nutrition and Food Science (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Successful applicants shall have a minimum grade point average of 3.0. Undergraduate preparation should include basic courses in nutrition and food science. 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 admission, and two letters of recommendation are required at the time of application.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Degree Requirements

NFS 6000	Nutritional Biochemistry	3
Select at least three of the following:		9
NFS 6020	Nutrient and Gene Interaction	
NFS 6030	Microbiological Safety of Foods	
NFS 6230	Nutrition and Physical Performance	
NFS 7000	Nutritional Metabolomics and Bioinformatics	
NFS 7240	Nutritional Epidemiology	
Elective Courses (minimum necessary to meet degree requirements)		17
NFS 7999	Master's Essay Direction	3
Total Credits		32

Nutrition and Food Science (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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; 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 admission, and two letters of recommendation are required at the time of application

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Degree Requirements

NFS 6000	Nutritional Biochemistry	3
Select at least three of the following:		9
NFS 6020	Nutrient and Gene Interaction	
NFS 6030	Microbiological Safety of Foods	
NFS 6230	Nutrition and Physical Performance	
NFS 7000	Nutritional Metabolomics and Bioinformatics	
NFS 7240	Nutritional Epidemiology	
Master of Science Laboratory Requirements		8
Elective Courses (minimum necessary to meet degree requirements)		4
NFS 8999	Master's Thesis Research and Direction	8
Total Credits		32

Nutrition and Food Science and Public Health (M.A./M.P.H. Joint Degree)

The M.A. in Nutrition and Food Science/M.P.H. is a joint degree program offered by the Department of Nutrition and Food Science, College of Liberal Arts and Sciences, and Department of Family Medicine and Public Health Sciences, School of Medicine.

Students must meet the admission and graduation requirements of both programs and enroll concurrently in the two programs during most of the period in which they are earning the degrees. If they complete requirements for only one degree, one degree will be awarded.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Admission criteria for the MA-MPH Joint Degree will meet the requirements of both MA and MPH Degrees by requiring:

1. A minimum undergraduate Grade Point Average of 3.0 and all requirements for admission to the WSU Graduate School that include satisfying the English proficiency requirements. If applicants have not completed a baccalaureate degree from an accredited institution in the US or in a country where English is the native language, satisfactory attainment of scores in the Michigan English Language

Assessment Battery (MELAB) (85), the Test of English as a Foreign Language (TOEFL) (79 internet-/550 paper-based), or the International English Language Testing System (IELTS) (6.5) will be required. Tests should not be more than 2 years old.

2. The completion of the Graduate Record Examination (GRE) with the expectation that scores will be at or above the 60th percentile for verbal reasoning (510/154: new/old), at or above the 55th percentile for quantitative reasoning (675/153: new/old), and a score of at least 4.0 in analytical writing.

3. Completion of college-based courses in mathematics and the social sciences, and completion of the following undergraduate courses or equivalent:

NFS 2130 & NFS 2140	Introductory Food Science and Introductory Food Science Laboratory	4
NFS 2220	Nutrition Laboratory	1
NFS 3230	Human Nutrition	3
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
One semester of Organic Chemistry		
Courses in biochemistry and statistics are recommended		

4. The submission of a professional curriculum vitae together with a satisfactory personal statement indicating the applicant's background, research and/or work experience, interests, and career goals as they relate to attainment of the MA-MPH degree. Three letters of recommendation will also be required. An interview will also be conducted (when possible).

A minimum of 59 graduate credits beyond the baccalaureate degree is required for completion of the MA-MPH program.

Students enrolled in the MA-MPH Joint Degree Program will be required to take specific NFS (p.) and FPH (p.) listed public health-related courses. The culminating master's essay (NFS 7999) requirement of the MA degree will be substituted by completion of the 3-credit hour MPH project course (FPH 8990). A total of 12 credits can be double-counted towards completion of this joint degree program.

Graduation requirements for the MA-MPH Joint Degree are consistent with the MA and MPH Degrees and will:

1. Require completion of all required courses for both the MA and MPH degree segments, the public-health related courses specific to the MA-MPH Program, the culminating MPH project course, and elective courses for a minimum total of 59 credit hours within a 6 year period. A total of 15 credits may be double-counted.
2. Require students to maintain a minimum grade point average of 3.0 in the entire program. A minimum of a B grade in all required courses in both the MA and MPH segments will also be required. Students obtaining less than a B grade in any core or required course will be allowed to retake it only once. Departmental policies will allow for only one C grade over the course of the entire program (and only in an elective course).

M.A. in Nutrition and Food Science

Core Courses

NFS 7850	Graduate Seminar	1
NFS 6000	Nutritional Biochemistry	3
NFS 6030	Microbiological Safety of Foods ¹	3
Select two of the following:		6
NFS 6020	Nutrient and Gene Interaction	
NFS 7000	Nutritional Metabolomics and Bioinformatics	
NFS 7230	Nutrition and Physical Performance	

Major M.A.-M.P.H. Specific Courses

NFS 5220	Community Nutrition	2
NFS 6210	Nutrition through the Life Cycle ¹	3
FPH 7240	Epidemiology ¹	3
NFS 7240	Nutritional Epidemiology ¹	3

Required Culminating Course

FPH 8990	Master's Project ^{1,2}	3
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Minor Elective Courses

Select a minimum of five credits of the following: 5

NFS 5250	Nutrition and Disease	
NFS 6270	Eating Behavior and Body Weight Regulation	
NFS 6850	Controversial Issues	
NFS 7990	Directed Study	
FPH 7020	Biostatistics II	
FPH 7370	Health, Disease, and Aging	
FPH 7350	Statistical Programming for Public Health Practice (SAS)	
FPH 7990	Directed Studies in Community Health Services	
HE 6350	Health Education and the Nation's Health	
CB 7430	Cancer Epidemiology	
EER 7650	Computer Use in Research	

Total Credits 32

¹ MA-MPH Joint Degree double-counted courses

² in lieu of NFS 7999

Master of Public Health

Core Courses

FPH 7010	Seminar in Public Health	1
FPH 7015	Biostatistics I	4
FPH 7240	Epidemiology ¹	3
FPH 7320	The Social Basis of Health and Health Care	3
FPH 7420	Principles of Environmental Health	3
FPH 7100	Health Care Organization and Administration	3
FPH 7250	Applied Epidemiology	3
FPH 7230	Health Program Evaluation	3
FPH 7210	Research Methods for Health Professionals	4

Major M.A.-M.P.H. Specific Courses

NFS 6030	Microbiological Safety of Foods ¹	3
NFS 6210	Nutrition through the Life Cycle ¹	3
NFS 7240	Nutritional Epidemiology ¹	3

Required Culminating Courses

FPH 7440	Practicum in Public Health	3
FPH 8990	Master's Project ¹	3
	or FPH 7440 Practicum in Public Health	

Total Credits 42

¹ MA-MPH Joint Degree double-counted courses

Nutrition and Food Science (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Applicants to the program must have a master's degree in nutrition and/or food science or in a cognate science. 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.

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.
3. 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.
4. 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, NFS 9992, NFS 9993, and NFS 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.
5. Submission of a satisfactory research dissertation.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Peace and Conflict Studies

Office: 2320 Faculty/Administration Building; 313-577-3453

Director: Frederic S. Pearson

<http://www.clas.wayne.edu/pcs/>

- Peace and Security Studies (Graduate Certificate) (p. 209)

Peace and Security Studies (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). The GCPSS program is open to students who have been

admitted to or completed an accredited Master's degree program in an appropriate discipline at Wayne State University or at another university in this region or Canada. 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, along with evidence, as appropriate, of English proficiency (e.g., TOEFL score). The Director of the Center for Peace and Conflict Studies is the program advisor.

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, along with completion for credit of a community based practicum (applied research) or internship (professional training) experience. An additional six elective credits are to be selected from existing courses in a variety of disciplines; one of these courses may come from the student's home Master's major. 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/PS 6100	Introduction to Graduate Peace and Security Studies	3
PCS 7100	Peace Making: Regional, Technological, Transnational Perspectives	3
PCS 7800	Graduate Practicum in Peace and Security Studies ¹	3

Electives

Select six credits of the following:² 6

Culture, Diversity and Identity

ANT 6290	Culture Area Studies	
COM 6350	Communication, Culture, and Conflict	
DR 6120	Human Diversity and Human Conflict	
ECO 5410/6415	Economics of Race and Gender	
HIS 5220/7220	The Changing Shape of Ethnic America: World War I to the Present	
NE 7100	Islam and the West	
PS/AFS 5740	Ethnicity: The Politics of Conflict and Cooperation	
PS 6050	Class, Race, and Politics in America	

Violence and Enforcement

HIS 5530/7530	History of World War I and II: A Social and Political History of Two World Wars	
HIS 5460/7465	History of the Holocaust	
PCS 6050	Topics in Peace, Security and Non-Violence	
PS 5830	International Conflict and Management	
PS 6830	Civil War and Conflict Processes	
PS 7810	Seminar in World Politics	

Equity and Justice

ECO 5490/ HIS 5290	American Labor History	
PHI 5270	Philosophy of Law	
PHI 5280	History of Ethics	
PS 5820	International Law	

PS 5850	Human Rights
SOC 5700	Seminar in Social Inequality

Total Credits 15

- Students in 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, immigration or with border management. Internship placement may not be paid or 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 should be taken after completing PCS 6100 and PCS 7100.
- Additional graduate courses related specifically to peace and/or security areas that could satisfy the elective sequence requirement are listed below. Students may petition for acceptance of alternate relevant electives.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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. Core course instructors in the program also report on the extent to which assessment goals were reached and will survey the students to determine ways in which course material was or was not utilized in career and everyday life experiences.

Philosophy

Office: 5057 Woodward, 12th floor; 313-577-4583

Chairperson: John Corvino <http://www.clas.wayne.edu/Philosophy/>

- Philosophy (M.A.) (p. 210)
- Philosophy (Ph.D.) (p. 211)

Philosophy (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

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 master's 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 master's 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 and preliminary essay requirements.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Philosophy (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate degree, including thirty credits of dissertation directed study. 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 two preliminary essays by the beginning of the fourth year; and
5. Pass an oral examination on the dissertation prospectus, by the fifth year;

The thirty credit dissertation registration requirement is fulfilled by registering for PHI 9991, PHI 9992, PHI 9993, and PHI 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. 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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Physics and Astronomy

Office: 135 Physics Research Building; 313-577-2721

Chairperson: David Cinabro

Associate Chairperson: Jogindra M. Wadehra

Academic Services Officer: J. Scott Payson

<http://www.clas.wayne.edu/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, biophysics, and quantum field theory.

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 laboratories. The department is housed in a modern physics building containing well-equipped research laboratories.

- Physics (M.A.) (p. 211)
- Physics (M.S.) (p. 212)
- Physics (Ph.D.) (p. 212)

Physics (M.A.)

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 Arts with a major in Physics is offered under Plan B, as described on the next tab.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, applicants must satisfy the following criteria.

Prerequisite preparation should include:

Code	Title	Credits
A minimum of general college physics with laboratory equivalent to:		
PHY 2170	University Physics for Scientists I	
PHY 2180	University Physics for Scientists II	
PHY 3300	Introductory Modern Physics	
Fifteen credits in intermediate physics courses, for example, those equivalent to the following:		
PHY 5100	Methods of Theoretical Physics I	
PHY 5200	Classical Mechanics I	
PHY 5210	Classical Mechanics II	
PHY 5340	Optics	
PHY 6400	Quantum Physics I	
PHY 6410	Quantum Physics II	
PHY 6500	Thermodynamics and Statistical Physics	
PHY 6600	Electromagnetic Fields I	
PHY 6610	Electromagnetic Fields II	
PHY 6850	Modern Physics Laboratory	
Mathematics equivalent to mathematics prerequisites required in those physics courses		
A minimum of general college chemistry with laboratory equivalent to:		
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory (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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.*

1. The following physics courses or their equivalents must be completed or must have been completed previously at the undergraduate level.

PHY 5100	Methods of Theoretical Physics I	3
PHY 5210	Classical Mechanics II	3
PHY 6400	Quantum Physics I	3
PHY 6410	Quantum Physics II	3
PHY 6500	Thermodynamics and Statistical Physics	4
PHY 6600	Electromagnetic Fields I	3
PHY 6610	Electromagnetic Fields II	3

2. Mathematics equivalent to mathematics prerequisites required for the course work listed above.
3. At least nine credits of coursework in physics at the 7000-level or above (exclusive of PHY 7990, PHY 7996, PHY 7999, PHY 8995, PHY 8999).
4. PHY 7999 Master's Essay Direction.
5. A departmental final oral examination is required of all candidates.

Physics (M.S.)

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 or Plan C.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, applicants must satisfy the following criteria.

Prerequisite preparation should include:

Code	Title	Credits
A minimum of general college physics with laboratory equivalent to:		
PHY 2170	University Physics for Scientists I	
PHY 2180	University Physics for Scientists II	
PHY 3300	Introductory Modern Physics	

Fifteen credits in intermediate physics courses, for example, those equivalent to the following:

PHY 5100	Methods of Theoretical Physics I
PHY 5200	Classical Mechanics I
PHY 5210	Classical Mechanics II
PHY 5340	Optics
PHY 6400	Quantum Physics I
PHY 6410	Quantum Physics II
PHY 6500	Thermodynamics and Statistical Physics
PHY 6600	Electromagnetic Fields I
PHY 6610	Electromagnetic Fields II

PHY 6850 Modern Physics Laboratory

Mathematics equivalent to mathematics prerequisites required in those physics courses

A minimum of general college chemistry with laboratory equivalent to:

CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory (or equivalent courses)
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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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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. The following physics courses or their equivalents must be completed or must have been completed previously at the undergraduate level.

PHY 5100	Methods of Theoretical Physics I	3
PHY 5210	Classical Mechanics II	3
PHY 6400	Quantum Physics I	3
PHY 6410	Quantum Physics II	3
PHY 6500	Thermodynamics and Statistical Physics	4
PHY 6600	Electromagnetic Fields I	3
PHY 6610	Electromagnetic Fields II	3

2. Mathematics equivalent to mathematics prerequisites required for the course work listed above.
3. At least nine credits of coursework in physics at the 7000 level or above (exclusive of PHY 7990, PHY 7996, PHY 7999, PHY 8995, PHY 8999).
4. PHY 8999 Master's Thesis Research and Direction.
5. 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.

Physics (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). In addition, applicants must satisfy the following criteria.

Prerequisite preparation should include:

Code	Title	Credits
A minimum of general college physics with laboratory equivalent to:		

PHY 2170	University Physics for Scientists I
PHY 2180	University Physics for Scientists II
PHY 3300	Introductory Modern Physics

Fifteen credits in intermediate physics courses, for example, those equivalent to the following:

PHY 5100	Methods of Theoretical Physics I
PHY 5200	Classical Mechanics I
PHY 5210	Classical Mechanics II
PHY 5340	Optics
PHY 6400	Quantum Physics I
PHY 6410	Quantum Physics II
PHY 6500	Thermodynamics and Statistical Physics
PHY 6600	Electromagnetic Fields I
PHY 6610	Electromagnetic Fields II
PHY 6850	Modern Physics Laboratory

Mathematics equivalent to mathematics prerequisites required in those physics courses

A minimum of general college chemistry with laboratory equivalent to:

CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory (or equivalent courses)
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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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate, including thirty credits of dissertation research. Students must demonstrate proficiency in the fields of: mechanics, electromagnetic theory, quantum physics, and thermodynamics and statistical mechanics.

Course work:

The following courses or their equivalent will be required of all candidates:

PHY 7110	Methods of Theoretical Physics II
PHY 7400	Quantum Mechanics I
PHY 7500	Statistical Mechanics

One of the following: 3

PHY 7050	Survey of Condensed Matter Physics
PHY 7060	Survey of Elementary Particle Physics
PHY 7070	Survey of Nuclear Physics

Two of the following:

PHY 7200	Advanced Mechanics
PHY 7410	Quantum Mechanics II
PHY 7600	Electromagnetic Theory I
PHY 7610	Electromagnetic Theory II

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. On petition of the student and his/her dissertation 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.

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.

Dissertation: An approved dissertation is required. The thirty credit dissertation registration requirement is fulfilled by registering for the courses PHY 9991, PHY 9992, PHY 9993, and PHY 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Political Science

Office: 2040 Faculty/Administration Building; 313-577-2630

Chairperson: Daniel S. Geller

<http://www.clas.wayne.edu/politicalscience/>

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.

- Political Science (M.A.) (p. 214)
- Political Science and Law (M.A./J.D. Joint Degree) (p. 214)
- Public Administration (M.P.A.) (p. 214)
- Political Science (Ph.D.) (p. 215)

Political Science (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 submitted to the university.

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 PS 5630 (statistics) and PS 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, and world politics.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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. Students in the program must also satisfy the Department's normal admission requirements for the master's degree, including the Graduate Record Examination if required, in order to be admitted to the Graduate School. For further details, students should contact the Department's Director of Graduate Studies.

Political Science and Law (M.A./J.D. Joint Degree)

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 Requirements

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.

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 PS 5630, PS 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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Public Administration (M.P.A.)

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 Network of Schools of Public Policy, Affairs, and Administration.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 holding master's degrees in other fields and having graduate grade point averages of 3.30 or higher in their graduate degree work, need not submit GRE scores. Letters of Recommendation from previous instructors are welcome but not required.

A personal statement citing career goals and objectives is also required.

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:

PS 5630	Statistics and Data Analysis in Political Science I	4
PS 7300	Public Administration and its Environment	3
PS 7320	Organization Theory and Behavior	3
PS 7330	Public Budgeting and Finance	3
PS 7340	Public Personnel Management	3
PS 7350	Managing Public Organizations and Programs	3
PS 7375	Professional Development Seminar	1-2
PS 7410	Policy Formation and Implementation	3
PS 7460	Program Evaluation	3
or PS 7660	Research Methods in Policy and Politics	
PS 7480	Policy Analysis for Administration	3

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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 specialization. Areas of concentration include:

- Economic Development Policy and Management
- Health and Human Services Policy and Management
- Human and Fiscal Resource Management
- Non-Profit Policy and Management
- Organizational Behavior and Management
- Urban and Metropolitan Policy and Management
- Elective Option (individually tailored)

Graduate Certificate in Gerontology (p. 303): In conjunction with their degree work, M.P.A. students may also pursue a certificate in gerontology administered by the School of Social Work. Students interested in this program should refer to the Graduate School General Information section of this bulletin, beginning under Graduate School (p. 17).

Graduate Certificate in Economic Development (p. 222): In conjunction with their degree work, M.P.A. students may also pursue a certificate in

economic development, administered by the Department Urban Studies and Planning.

Political Science (Ph.D.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 January 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. Possession of a master's degree does not automatically warrant admission to doctoral study.

A Ph.D. student is required to complete a minimum of ninety graduate credits, thirty of which are earned through the dissertation.

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 PS 7660 and PS 8600.
2. Filing an approved Plan of Work with the Graduate School.
3. Completion of the general statistics requirement (PS 5630 and PS 6640, or their equivalents);
4. Completion of a preliminary oral examination after the second year of course work for the degree;
5. Completion of the final written qualifying examination.

Approval of Dissertation Prospectus: The candidate is required to prepare and defend a Dissertation prospectus to present following the qualifying examination. The prospectus must be approved by the Dissertation advisory Committee before beginning work on the Dissertation.

Dissertation: The thirty credit dissertation registration requirement is fulfilled by registering for the courses PS 9991, PS 9992, PS 9993, and PS 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Psychology

Office: 7th floor, 5057 Woodward; 313-577-2800

Chairperson: Boris Baltes

Associate Chairperson: Emily Grekin

<http://www.clas.wayne.edu/psychology/>

- Industrial and Organizational Psychology (M.A.) (p. 216)
- Psychology (M.A.) (p. 216)
- Psychology (Ph.D.) (p. 216)
- Infant Mental Health (Ph.D. dual-title program) (p. 218)

Industrial and Organizational Psychology (M.A.)

This program is designed for students interested in pursuing advanced training in applied workplace psychology. This includes:

1. job analysis and the development and validation of personnel selection and performance appraisal systems,
2. the implementation and evaluation of employee and management training and development programs,
3. enhancing employee motivation and morale, and
4. 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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Students may enter the program in either the fall or spring/summer semester. The application deadline for the fall semester is June 1 and for the spring/summer semester, March 1. 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 (grade of 'B' or better), 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 (<http://www.clas.wayne.edu/psychology/>).

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

PSY 6500	Advanced Psychological Statistics	3
PSY 6510	Organization Theory	3
PSY 6520	Organizational Behavior	3
PSY 6535	Psychometric Theory	3
PSY 6550	Training and Employee Development	3
PSY 6570	Research Methods in Industrial/Organizational Psychology	3

PSY 7745	Job Analysis and Performance Criteria	3
PSY 7750	Organizational Staffing	3
PSY 7770	Testing in the Workplace	3
PSY 7790	Capstone Course	3
Total Credits		30

Psychology (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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.

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 (PSY 8999). In addition to the thesis, a minimum of twenty-four credits in psychology is required and must include:

PSY 7150	Quantitative Methods in Psychology I	4
PSY 7160	Quantitative Methods in Psychology II	4

Select one of the following:

PSY 7010	History and Systems of Psychology	
PSY 7080	Human Cognition	
PSY 7090	Theories of Learning	
PSY 7120	Biological Basis of Behavior	
PSY 7250	Theory of Personality	
PSY 7400	Introduction to Life-Span Developmental Psychology	
PSY 7590	Industrial and Organizational Psychology	
PSY 7620	Social Psychology: Research and Theory	

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 (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Psychology (Ph.D.)

Admission Requirements

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. Application policies and procedures are available on the Department of

Psychology (<http://clas.wayne.edu/psychology>) website. Students will not be considered for admission until all documents have been received and evaluated. All forms are due by December 1, and applicants will be notified of the admission committee's decision around March 1.

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.

The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credits. 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	Quantitative Methods in Psychology I	4
PSY 7160	Quantitative Methods in Psychology II	4
One additional quantitative analysis course		
Two of the following outside the student's major area:		
PSY 7010	History and Systems of Psychology	
PSY 7080	Human Cognition	
PSY 7090	Theories of Learning	
PSY 7120	Biological Basis of Behavior	
PSY 7250	Theory of Personality	
PSY 7400	Introduction to Life-Span Developmental Psychology	
PSY 7590	Industrial and Organizational Psychology	
PSY 7620	Social Psychology: Research and Theory	

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 sub-area focuses on fundamental research on human cognition and its application to educational and human factors settings. Current research interests include speech perception; attention; memory; psycholinguistics; sign language and deafness; and gerontological studies of memory.

The DEVELOPMENTAL sub-area takes a life-span perspective providing students with a strong foundation in dynamic modern developmental theories and models. Current studies focus on risk and resilience, longitudinal modeling, developmental contexts (e.g., poverty, child care, race/ethnicity, culture), ethology and marital relations, parent-child relationships, stress reactivity, emotion regulation, temperament, joint attention, school readiness, language development, autobiographical memory, and child maltreatment.

The SOCIAL-PERSONALITY sub-area focuses on theory-based basic and applied research. Students can be trained in a variety of experimental, survey research, and intervention methods and techniques, including alcohol administration, daily diaries, hormone assays, and implicit/automatic processing. These research methods are used to address basic research questions in the areas of social cognition, close relationship processes, interpersonal violence, and personality processes.

INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY offers coursework 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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

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.

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, PSY 9992, PSY 9993, and PSY 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Infant Mental Health (Ph.D. dual-title program)

Students admitted to the Ph.D. program in either clinical psychology or the CDS area of psychology can apply to earn a Ph.D. in Psychology with a dual-title in Infant Mental Health. This dual-title degree is designed to prepare psychologists to conduct research, advocate for, and intervene to improve early behavioral, cognitive, social, and emotional development in contexts in which parents or children may suffer from developmental disabilities, health problems, or mental health problems. Students enrolled in this dual title program take courses in infant development and assessment and develop specific skills related to infant mental health assessment and treatment. Students in clinical psychology also conduct a clinical practicum in infant mental health. The dual-title course work 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 Requirements

Applicants must meet the admissions standards of the Graduate School and the Department of Psychology and be offered admission to the psychology doctoral program in either clinical psychology or CDS area of psychology. Students may indicate on their application to the psychology program their desire to earn an infant mental health dual-title, or they can request this after an offer of admission has been made. Students already enrolled in the Ph.D. program in psychology during their first three years may also contact the infant mental health program director, Ann Stacks to enroll in the program.

Students are required to take 12 credits of infant mental health coursework. All students must complete and earn at least a grade of B in the following courses:

ELE 7025		2
NUR 7880	Infant/Family Mental Health Assessment	2
SW 7010	Infant Mental Health Practice	2
PSY 7425	Psychology of Infant Behavior and Development	3
ELE 7035	Infant and Toddler Developmental Assessment for Intervention Planning	3
Total Credits		12

In addition, dual-title students who are in the clinical psychology doctoral training program are required to complete at least one semester of a supervised field placement / external practicum at an infant mental health agency. Students in both the clinical psychology and CDS doctoral training programs will have their knowledge of infant mental health assessed during their doctoral qualifying examination. In addition, dual-title students must write a dissertation on a topic related to infant mental health.

Sociology

Office: 2228 Faculty/Administration Building; 313-577-2930

Chairperson: Jeffrey D. Kentor;

<http://www.clas.wayne.edu/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.

- Sociology (M.A.) (p. 218)
- Sociology (Ph.D.) (p. 219)

Sociology (M.A.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 January 15. Materials required for admission include:

1. Graduate Application (demographic and educational profile).
2. Official transcripts from past universities attended.
3. Three (3) letters of recommendation (at least two should be from university or college faculty members).
4. Statement of Interest (this should describe applicants' reasons for graduate study in Sociology, proposed areas of study, and career goals).
5. Writing sample.
6. G.R.E. scores.¹
7. TOEFL scores.²

¹ G.R.E. scores will be considered, but will not be a binding criterion for admission. The Department realizes that scores on standardized tests are greatly influenced by social and cultural factors, and may not be accurate indicators of performance ability. A combined assessment of students' GPA, G.R.E. scores, transcripts, letters of recommendation, writing sample, and statements of interest will be used to make admissions decisions.

² We are currently asking for paper-based TOEFL scores of 600 or above (or internet-based TOEFL scores of 100 or above) for entry into our Ph.D. program. Nonetheless, we will consider students who have a score of 550 or better on the paper version of the TOEFL (or 80 or better on the internet-based version of the TOEFL). The Department realizes that scores on standardized tests are greatly influenced by social and cultural factors, and may not be accurate indicators of performance ability.

A grade point average of at least 3.3 in upper division courses, and in sociology courses, is required for admission consideration to the Master's program. All entering students must have SOC 4050 (sociological theory), SOC 4200 (research methods), and SOC 4220 (statistics), or their equivalents. SOC 4220 may be waived by permission of the instructor of SOC 6280. Students required to take prerequisites should have the courses 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.

The Master of Arts degree with a major in Sociology offers two tracks: Plan A (the Master's thesis track) and Plan B (the Master's Essay track). Students seeking the Ph.D. degree should select Plan A. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Plan A for students enrolled prior to Fall 2014 requires thirty-two credits in course work including:

SOC 6050	Sociological Theory Before 1920	4
SOC 6060	Sociological Theory Since 1920	4

SOC 6280	Social Statistics	4
SOC 7200	Advanced Survey of Approaches and Techniques of Social Research	4
SOC 7030	Proseminar	4
SOC 8999	Master's Thesis	8
Four credits of sociology electives		4
Total Credits		32

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 A for students enrolled in Fall 2014 or thereafter requires thirty-two credits in course work including:

SOC 6050	Sociological Theory Before 1920	4
SOC 6280	Social Statistics	4
SOC 7200	Advanced Survey of Approaches and Techniques of Social Research	4
SOC 7030	Proseminar	4
SOC 8999	Master's Thesis	8
Sociology electives		8
Total Credits		32

Plan B requires thirty-two credits in course work including:

SOC 6050	Sociological Theory Before 1920	4
SOC 6280	Social Statistics	4
SOC 7200	Advanced Survey of Approaches and Techniques of Social Research	4
SOC 7030	Proseminar	4
SOC 7999	Master's Essay	3
Electives (Ten of which must be in sociology courses)		13
Total Credits		32

A final oral examination and public defense of the Master's essay is required.

Applied Sociological Research Methodology (M.A. Concentration)

The goal of this program is to provide training for students to enter careers as research analysts. Students receive instruction in advanced quantitative and qualitative methodology, and first-hand experience in applied research and policy-related internships. Following their internship, students write an M.A. essay supervised by their faculty advisor that applies methodological and/or statistical expertise to a problem identified by their internship supervisor.

This concentration is offered only as a Plan B master's program for which thirty-two credits are required. Required courses include:

SOC 6280	Social Statistics	4
SOC 6290	Advanced Social Statistics	4
SOC 7000	Internship in Applied Sociology	3
SOC 7200	Advanced Survey of Approaches and Techniques of Social Research	4
SOC 7260	Qualitative Sociology	4
SOC 7260	Qualitative Sociology	4
SOC 7280	Analysis of Complex Survey Data	3
SOC 7500	Advanced Qualitative Methods	4

SOC 7999	Master's Essay	2
Total Credits		32

Sociology (Ph.D.) Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 January 15.

Materials required for Ph.D. admission include:

1. Graduate Application (demographic and educational profile).
2. Official transcripts from past universities attended.
3. Three (3) letters of recommendation (at least two should be from university or college 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. Statement of Interest (describing applicants' reasons for graduate study in sociology, proposed areas of study, and career goals).
5. Writing sample (e.g. a term paper or report).
6. G.R.E. scores.¹
7. TOEFL scores.²

¹ G.R.E. scores will be considered, but will not be a binding criterion for admission. The Department realizes that scores on standardized tests are greatly influenced by social and cultural factors, and may not be accurate indicators of performance ability. A combined assessment of students' GPA, G.R.E. scores, transcripts, letters of recommendation, writing sample, and statements of interest will be used to make admissions decisions.

² We are currently asking for paper-based TOEFL scores of 600 or above (or internet-based TOEFL scores of 100 or above) for entry into our Ph.D. program. Nonetheless, we will consider students who have a score of 550 or better on the paper version of the TOEFL (or 80 or better on the internet-based version of the TOEFL). The Department realizes that scores on standardized tests are greatly influenced by social and cultural factors, and may not be accurate indicators of performance ability.

Applicants should have a 3.5 grade point average (G.P.A.) in their master's degree work and/or previous graduate work. In particular, we will be looking at applicants' grades in any previous methods and theory courses. If students do not have a background in sociology, SOC 4050 (sociological theory), SOC 4200 (research methods), and SOC 4220 (statistics) must be taken at the undergraduate level before applying to the Ph.D. program.

Students must complete the following courses prior to taking any other Ph.D. level courses (or their equivalents): SOC 6050, SOC 6060, SOC 6280, SOC 7030, and SOC 7200. A minimum of a B or better (but preferably a grade of A) is required in all of these master's-level courses before enrolling in Ph.D.-level courses. If students are missing this master's-level coursework when they apply to the Ph.D. program, they may be placed in the M.A. program until they complete SOC 6050, SOC 7200, and SOC 6280, at the very least. It is very important that students successfully complete this master's-level coursework before beginning the Ph.D. program.

PLEASE NOTE: 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, will not be admitted directly into the Ph.D. program. They may be granted admission to the master's program, possibly on a "qualified" basis, in order to take courses in preparation for the Ph.D. program. 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. This change of status is not automatic, and the Graduate Admissions committee will be evaluating students' grades in master's-level courses when considering change of status applications. Any questions about this policy should be directed to the Graduate Director.

For Students Enrolled Prior to Fall 2013

The Doctor of Philosophy degree requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit. Prior to electing Ph.D.-level courses, all doctoral students in sociology must complete the following prerequisite courses:

Select one of the following:	4
SOC 6050 Sociological Theory Before 1920	
SOC 6060 Sociological Theory Since 1920 ¹	
SOC 6280 Social Statistics	4
SOC 7030 Proseminar ¹	4
SOC 7200 Advanced Survey of Approaches and Techniques of Social Research	4

¹ Can be counted toward the thirty credits required in Ph.D.-level courses.

Only SOC 6060 and 7030 count toward the thirty credits required in Ph.D.-level courses.

Required courses at the Ph.D. level include:

SOC 7260 Qualitative Sociology	4
Cognate field	6-9
Specialization within sociology	8-12
SOC 7500 Advanced Qualitative Methods	4
or SOC 6290 Advanced Social Statistics	

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.

The thirty credit dissertation registration requirement is fulfilled by registering for the courses SOC 9991, SOC 9992, SOC 9993, and SOC 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

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.

The Department has a Policy on Student Dismissal from the Program Due to Poor Performance. Students should consult the Sociology Department website and/or the Graduate Director to access a copy of these guidelines and policies

For Students Enrolled Fall 2013 or Thereafter

1. Students must earn at least ninety credits beyond the B.A. degree, which includes thirty credits in an M.A. degree (which can be transferred from another university in many cases), at least thirty Ph.D. credits in our doctoral program, and thirty dissertation credits. After finishing their required coursework, students working on dissertations must complete four consecutive semesters of Doctoral Dissertation Research (SOC 9991-SOC 9994). If a student has completed all dissertation credits, but still needs to work on the dissertation, then he or she may register for SOC 9995 (doctoral maintenance credits in sociology). SOC 9995 is zero credits and students pay a set fee to be registered; the student will be considered full-time if registered in this course number. A total of six to nine credits of the thirty Ph.D. credits may be earned outside the Department of Sociology (see item 5 below). Students with an M.A. degree from another university must file a transfer of credit form with their plan of work (see note about plan of work below), in order to get credit for up to thirty credits from another master's degree program outside of Wayne State.
2. Advanced Methods Coursework: Other required courses for the Ph.D. program in sociology include SOC 7260 (qualitative methods, 4 credits). Students will then choose either a qualitative track or quantitative track and take one additional methods course in their track. If students choose a qualitative track, they will take SOC 7500 (advanced qualitative methods). If students choose a quantitative track, they will take SOC 6290 (advanced statistics).
3. Specialization Coursework: The Department of Sociology offer Ph.D. specializations in 3 areas: Medical Sociology/Health, Race/ Gender Inequality, and Urban/Labor Studies. Students will take at least 12 credits in one of these areas within our Ph.D. program. Students will also complete Ph.D. preliminary examinations in their chosen specialization (see description of the preliminary exam process below).

Race and Gender Inequality: The Sociology of Inequality encompasses a broad range of research topics and methods that revolve around the social causes, manifestations, and consequences of the unequal distribution of resources, opportunities, privileges, power, status, prestige, and various other favorable outcomes/attributes in society. The sociology of inequality is particularly, but not exclusively, concerned with disparities between categories of race/ethnicity, sex, gender, age, sexual orientation, ability (or disability), religious beliefs, and socioeconomic or social class background. The sociology of inequality often considers questions about systems of stratification, as well as mobility (or lack thereof) within such systems, including the inter-generational reproduction of social location.

Students who choose the Race and Gender Inequality specializations must take SOC 8700 (Seminar in Social Inequality) as their mandatory specialization course. Students are also required to take at least eight other credits in this specialization. The following courses can count towards the Race and Gender Inequality specialization:

SOC 6750 Sociology of Urban Health	4
SOC 7100 Women and Health ¹	4
SOC 7330 Class, Race, and Politics in America ²	3
SOC 7350 Urban Poverty and Racial Segregation ²	3
SOC 8400 Seminar in Sociology of the Family ¹	3

SOC 8700	Seminar in Social Inequality (Required)	4
SOC 8710	Advanced Seminar in Race/Ethnicity ²	4
SOC 8720	Advanced Seminar in Sex/Gender ¹	4
SOC 8801	Topics in the Sociology of Labor	4
SOC 8802	Topics in Urban Sociology	4

¹ More relevant/strongly recommended for those taking the gender prelim

² More relevant/strongly recommended for those taking the race prelim.

Other courses as approved by the Graduate Director.

Medical Sociology applies the perspectives, conceptualizations, theories, and methodologies of sociology to phenomena having to do with human health, illness, and disease. As a specialization, medical sociology encompasses a body of knowledge which places health, illness, and disease in a social, cultural, and behavioral context. Medical Sociology/Sociology of Health studies include: people's attitudes and beliefs about health, disease, disability and medical care providers and organizations; medical occupations or professions and the organization, financing, and delivery of medical care services; medicine as a social institution and its relationship to other social institutions; cultural values and societal responses with respect to health, illness, and disability; the role of social factors in the etiology of disease, especially functional and emotion-related disorders and what are now called stress-related disease.

Students who choose the Medical Sociology specialization must take SOC 7770 (Seminar in Medical Sociology). Students are also required to take at least eight other credits in this specialization, which maybe chosen from among:

SOC 5760	Society and Aging	3
SOC 6750	Sociology of Urban Health	4
SOC 7020/5020	End-of-Life Issues	3-4
SOC 7100	Women and Health	4
SOC 7770	Seminar in Medical Sociology (Required)	4

Other courses as approved by the Graduate Director.

Urban/Labor Studies focuses on a range of topics related to both our urbanized society and the organization of and experience in the workplace. A sociologist of work is concerned with (but not limited to) questions of: gender and race in the workplace, the transformation of work processes, national and international labor movements including unions as social movements, work and family, labor markets and immigration, workplace organizations like unions, politics, and organizational/workers' culture.

An urban sociologist focuses on urban experiences locally, nationally, or internationally, including but not limited to an examination of economic, social, and political transformation of cities throughout the world, with respect to race/ethnicity/ gender, immigration, urban social movements, poverty, residential patterns, and urbanization and gentrification. Urban/labor research utilizes all methodologies including statistical analysis, qualitative interviews, participant observation, comparative and historical, and content analysis.

Students who choose the Urban/Labor Studies specialization must take SOC 8805 (Seminar in the Sociology of Urban/Labor Studies). Students are also required to take at least eight other credits in this specialization. The following courses count towards the Urban/Labor Studies specialization:

SOC 6750	Sociology of Urban Health	4
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SOC 7330	Class, Race, and Politics in America	3
SOC 7350	Urban Poverty and Racial Segregation	3
SOC 8710	Advanced Seminar in Race/Ethnicity	4
SOC 8801	Topics in the Sociology of Labor ¹	4
SOC 8802	Topics in Urban Sociology ²	4
SOC 8805	Sociology of Urban and Labor Studies (Required)	4

¹ Strongly recommended for those taking the labor studies prelim.

² Strongly recommended for those taking the urban studies prelim.

Other courses as approved by the Graduate Director.

Cognate Coursework: Students also will take 6-9 credits in a minor or cognate area (either in a department outside of sociology at Wayne State or in a second specialization area within our department), as part of their Ph.D. program. These cognate credits also can be transferred in from an M.A. degree that is not in sociology, pending approval of advisor and Graduate Director.

Plan of Work: All Ph.D. students must submit a Ph.D. Plan of Work to the Graduate School before 40 credits of coursework have been completed (typically at the end of the student's first full year in the Ph.D. program). This Plan of Work reviews all courses/credits that students will use towards their Ph.D. degrees. Students transferring in Master's credits from another university will need to attach a Transfer of Credit form to their Plan of Work. Students should work with their advisors to complete this plan of work.

Ph.D. Preliminary Exams: The written Ph.D. preliminary examination ("prelim") is taken after students complete their Ph.D. coursework, and before they begin the dissertation process. The Ph.D. prelim is given in January and August of each year, typically the week or two before classes resume (students should pay special attention to announcements about prelim dates for each semester). The Ph.D. prelim corresponds to students' areas of specialization; thus, students will elect to take one of the following prelims: medical/ health, race/ethnicity, gender, labor, or urban.

All Ph.D. prelims consist of 3 parts, taken over a 2 day period. The format is as follows:

1. Day One, Morning: Examination on sociological theory as applied to the student's area of specialization.
2. Day One, Afternoon: Examination on research methods, as applied to the student's area of specialization.
3. Day Two, Morning: Examination on the content of the individual student's research interest as related to the dissertation.

Students should take their prelim soon after they have completed their required Ph.D. coursework in sociological theory, research methods, and their area of specialization. To apply to take the prelim, students should fill out the Prelim Application Form (<http://www.clas.wayne.edu/Sociology>) found on our website. Students should consult the chair of their specialization area for specific information about the specialization (i.e., courses that satisfy the Ph.D. specialization requirement, reading lists for the prelims, upcoming dates for the prelim, grading committee members, etc.)

Students must pass prelims in full before they can file for Ph.D. candidacy and begin their dissertations. Students receive two chances to pass Ph.D. prelims, but they should attempt to pass prelims on the first try (see guidelines for satisfactory academic progress below). If student fail their prelims a second time, they are dismissed from the Ph.D. program. Only in extremely rare circumstances are students granted a third chance at the prelim. Students should consult their advisors, the chair of their specialization area, and the Graduate Director before taking the prelim to

ensure that they are ready to take the prelim. Students can also contact the Graduate Director to find out more about prelim policies.

If students are done with their required Ph.D. coursework but have not passed their prelims, they can enroll in SOC 9990 (pre-dissertation credits) in order to maintain active student status. Students are sometimes allowed to enroll early in SOC 9991 (the first set of dissertation credits) if they are taking those credits during the semester that they are taking prelims. Students can contact the Graduate Director to talk further about this possibility.

Ph.D. Candidacy Status: following successful completion of their Ph.D. coursework and Ph.D. prelims, the student should select a 4-person dissertation committee and fill out a "Recommendation for Ph.D. Candidacy" form (available on the Graduate School's website). A dissertation committee includes three members of the sociology faculty (of which one is the student's advisor) and one outside member (typically a faculty member from another department at Wayne State who has expertise in the student's dissertation topic, but sometimes a student can find a faculty member from outside Wayne State who is willing to serve). All four committee members must sign onto a student's dissertation committee and sign the candidacy form before students are allowed to become a Ph.D. candidate and begin their dissertation credits

Dissertation Proposal: The dissertation proposal represents the oral qualifying exam for the purposes of the Graduate School. Examiners will be the student's dissertation committee (as outlined above). The student will submit a dissertation proposal to his/her dissertation committee, after that proposal has been approved in full by the student's advisor. Dissertation proposals include a short introductory chapter, a chapter of literature review, a chapter detailing students' theoretical or conceptual framework (although sometimes this is combined with the literature review), and a methods chapter that proposes how they will engage in their dissertation research. The student will work with their dissertation advisor to finalize the proposal. Once the advisor approves the draft, the student will submit the proposal draft to the entire dissertation committee for review. Committee members will receive at least 3 weeks (preferably one month) to review the proposal draft and decide whether it is defensible. If all committee members agree that the proposal is defensible, an oral defense of the dissertation proposal will be scheduled. Students should consult with their advisors to prepare for this oral defense. If students pass the oral defense of their proposal, their committee members will sign the "Prospectus and Record of Approval" form (available on the Graduate School's website). Once the student defends the dissertation proposal successfully, the student will work with their advisor to gain IRB approval (if necessary) for the dissertation research project and begin data collection. Dissertation proposals range in length, depending on the project. On average, students work on their dissertation proposals for two semesters before they defend them successfully.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Urban Studies and Planning

Office: 3198 Faculty Administration Building; 313-577-2701
Chairperson: : Kameshwari (Kami) Pothukuchi
<http://www.CLAS.wayne.edu/DUSP/>

The planning profession offers a systematic, creative way to influence the future of neighborhoods, cities, rural and metropolitan areas, even the country and the world. Urban and regional planners use their professional skills to serve communities facing social, economic, environmental and cultural challenges by helping residents to:

- Develop ways to preserve and enhance their quality of life
- Find methods to protect the natural and built environment
- Identify policies to promote equity and equality
- Structure programs to improve services to disadvantaged communities, and
- Determine methods to deal effectively with growth and development of all kinds.

The majority of planners work in traditional planning areas such as community development, land use, housing, transportation planning, environmental/natural resource planning, economic development, urban design, historic preservation and community activism. Other planners work in emerging fields such as healthy communities, food systems, energy development, or place-making.

The program seeks to prepare individuals to work 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.

- Urban Planning (M.U.P.) (p. 223)
- Economic Development (Graduate Certificate) (p. 222)

Economic Development (Graduate Certificate)

The Graduate Certificate Program in Economic Development equips students with conceptual and methodological tools with which to pursue economic development activities in state, regional and local governments; non-profit and community organizations; private associations such as chambers of commerce; or private businesses and civic institutions engaged in economic development. It is administered in conjunction with the following graduate programs:

- Sociology
- Business Administration
- Economics
- Employment and Labor Relations
- Public Administration
- 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 Requirements

Applicants must meet the admission standards of the Graduate School. (p. 17) 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.

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

Core Area I: Theory and Practice of Economic Development

UP 6550/ PS 6440/ ECO 6650	Regional, State, and Urban Economic Development: Policy and Administration
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Core Area II: Economic Development Policy, Politics and Institutions

Business Administration

MKT 7460	International Business
MGT 7750	Labor Relations and Collective Bargaining

Industrial Relations

ELR 7400	Labor Relations Law in North America
ELR 7450	Employment Relations Law in North America

Political Science

PS 6340	Public Sector Labor Relations
PS 7240	Urban Public Policy

Urban Planning

UP 6350	Housing Policy and Programs
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Core Area III: Economics and Finance of Economic Development

Business Administration

FIN 7870	International Finance
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Economics

ECO 6510	Advanced Public Finance
ECO 6800/ UP 5820	Advanced Urban and Regional Economics

Urban Planning

UP 6310	Real Estate Development
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Core Area IV: Economic Development Management and Analysis Technique

Business Administration

BA 7020	Corporate Financial Management
MGT 7660	Entrepreneurial Management

Political Science

PS 7250	Seminar in Urban Administration
PS 7460	Program Evaluation

Sociology

SOC 6580	Applied Sociology I: Research and Theory in Applied and Clinical Settings
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Urban Planning

UP 6650	Planning and Development Law
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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.

Urban Planning (M.U.P.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17).

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 (UP 7700, four credits), and a master's essay (UP 7999, three credits) or master's thesis (UP 8999, eight credits). Students are strongly advised to pursue Plan B, but may petition to pursue Plan A.

Required (Core) Courses

UP 5010	Resources and Communication in Planning	3
UP 5110	Urban Planning Process	3
UP 6120	Planning Studies and Methods	4
UP 6320	Quantitative Techniques I	4
UP 6510	Urban and Regional Systems	3
UP 6650	Planning and Development Law	3
UP 7010	Planning and Decision Theory	3

Electives: Following completion of at least twelve credits in required courses, students will, in consultation with their assigned faculty advisor, devise a Plan of Work, selecting elective courses that constitute one of three concentrations:

- Housing and Community Development
- Urban Economic Development
- 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 Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the College of Liberal Arts and Sciences (p. 178).

SCHOOL OF LIBRARY AND INFORMATION SCIENCE

Dean: Jon Cawthorne

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 information management - information access, organization, services, and management - as well as emerging competencies such as digitization, competitive intelligence, information architecture, and website 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.

Qualified information professionals work in varied settings all over the globe. The majority of SLIS graduates currently work in libraries but a variety of diverse career opportunities exist across the public, private, and nonprofit sectors. As organizations continue to view their information as a critical resource and place greater importance on its cultivation, SLIS graduates can be found enjoying engaging and exciting careers throughout business, law, health sciences, publishing, government, archives and museums, communications and media, engineering, academia, 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 professional employment.

Accreditation

The School of Library and Information Science has been accredited continuously for its master's degree by the American Library Association since 1967. The School's most recent continuing accreditation was granted by the ALA Committee on Accreditation in 2010. The School's next comprehensive accreditation review occurs in the Fall of 2016.

Mission and Goals of the School

Mission Statement

The School of Library and Information Science fosters learning and research about information policies, information fluency, and information accessibility within the global library and information environment. To this end the School combines theories with practices to educate leaders who advance the importance of information in society. The School delivers accessible, high quality education incorporating professional scholarship and best practices with intentional focus on three concerns:

- Library Users and Services
- Information Management
- Archives and Digital Content Management

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 multiethnic 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.

Learning Outcomes

Students who successfully complete the Master of Library and Information Science degree at the Wayne State University School of Library and Information Science will be able to:

1. Critically evaluate, synthesize, and disseminate information.
2. Understand how complex interactions between diverse users, societal factors, and information environments affect professional situations.
3. Facilitate access to, and use of, information resources between users and communities.
4. Apply multiple and emerging approaches to the organization of knowledge for varied literatures, records, and historical documents.
5. Articulate and advocate for the foundations of the profession and its basic values and ethics such as intellectual freedom, information access and dissemination, and apply these principles to the advancement of the profession.
6. Determine the significance of intellectual property, security, and privacy issues.
7. Assess, adopt, and utilize the most relevant information technologies.
8. Utilize current management and leadership theories and practices in the workplace.
9. Evaluate and apply library and information science research to problems of professional practice by employing theories, best practices, and assessment strategies to the range of information functions.
10. Practice professional engagement through leadership, service work, lifelong learning and community involvement.

MLIS Programs

- Library and Information Science (M.L.I.S.) (p. 225)
- Library and Information Science and History (M.A./M.L.I.S. Joint Degree) (p. 226)

Library and Information Science (M.L.I.S.)

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section of this bulletin. The following additions and amendments pertain to the School of Library and Information Science.

The accredited Master of Library and Information Science (MLIS) degree prepares professionals for leadership roles in libraries and other information organizations. By emphasizing the practical application of knowledge and skills, we educate students in the core principles of information management access, organization, services and support as well as emerging fields such as digital collections, competitive intelligence, information architecture and data analytics. The MLIS degree is available online with selected classes also offered on-campus.

Admission Requirements

Admission to the School is contingent upon admission to the Graduate School (p. 17). 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 2.50 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. You may register online (<http://www.ets.org/gre>). Wayne State University's institution code is 1898.

For tests taken on or after August 1, 2011: A total score of 294 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 153.

For tests taken prior to August 1, 2011: A total score of 950 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 500.

Miller Analogies Test (MAT): Official score report for tests taken within the last five years must indicate a score of at least 410. MAT information and testing center locations can be found online (<http://www.milleranalogies.com>).

3. Meet the SLIS Technology Requirements online (<http://www.slis.wayne.edu/technology-requirements.php>).
4. Submit a personal statement reflecting relevant personal and academic background and experience. The statement should be a minimum of 250 words and a maximum of 500 words (1-2 pages).
5. Submit a current resume or curriculum vitae.
6. 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 online (<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 the website (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.

The Master of Library and Information Science is offered only as a Plan C master's program, 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

LIS 6010	3
LIS 6080	3
LIS 6120	3

LIS 6210	3
LIS 7996	3
LIS 7040 or LIS 7310	3
Total Credits	18

LIS Elective Courses	11
HIS Elective Courses	7
Total Credits	36

Professional Specialization (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 one or more areas of specialization. The emphasis may relate to the type of environment in which the student intends to work or to specialized job activities or functions. Faculty advisors will assist the student in devising an optimal Plan of Work that meets the student's academic goals.

Practicum

The School offers students extensive opportunities for a supervised practicum experience with arts and cultural organizations, institutions and communities throughout metropolitan Detroit, southeast Michigan, and across the country. These opportunities ensure our students have the work experience all employers today want to see. A planned on-site experience that a student may elect for credit under the direction of an information professional and the supervision of a faculty member can be arranged. Applications deadlines will be posted to the SLIS electronic discussion list and website (<http://slis.wayne.edu/students/classes/practicum.php>).

Library and Information Science and History (M.A./M.L.I.S. Joint Degree)

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 programs. Candidates must complete the required courses as outlined 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

LIS 6010	3
LIS 6080	3
LIS 6120	3
LIS 6210	3
LIS 7040	3
LIS 7996	3

Elective Courses

Requirements: History

Students will complete twenty-eight credits of History core and elective courses (p. 198) and seven credits of LIS elective courses.

Required History Courses

HIS 7999	Master's Essay Direction	3
HIS 7830	Methods and Research in History	3

History Elective Courses

Select twenty-two credits, including the following:	22
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

Select seven credits	7
Total Credits	35

Total for both degrees: fifty-seven credits (no more than fourteen credits may be double-counted).

Graduate Certificate Programs

- Library and Information Science (Specialist Certificate) (p. 228)
- Archival Administration (Graduate Certificate) (p. 226)
- Information Management (Graduate Certificate) (p. 227)
- Public Library Services to Children and Young Adults (Graduate Certificate) (p. 229)

Archival Administration (Graduate Certificate)

The Graduate Certificate in Archival Administration was established both for individuals entering the archival profession and for those with experience in the field. The certificate program provides a professional education to individuals wishing to identify, preserve, and make archival records accessible for use.

The Archival Administration certificate includes courses which teach students basic archival theory, methods and practice of appraisal, arrangement, description, preservation, reference, and the legal and ethical concerns regarding traditional, visual, and electronic records. In addition, other courses include records management, historical institutions and an archival practicum.

This 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 Requirements

Admission to the School is contingent upon admission to the Graduate School (p. 17). 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 2.50 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. You may register online (<http://www.ets.org/gre>). Wayne State University's institution code is 1898.

For tests taken on or after August 1, 2011: A total score of 294 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 153.

For tests taken prior to August 1, 2011: A total score of 950 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 500.

Miller Analogies Test (MAT): Official score report for tests taken within the last five years must indicate a score of at least 410. MAT information and testing center locations can be found online (<http://www.milleranalogies.com>).

3. Meet the SLIS Technology Requirements online (<http://www.slis.wayne.edu/technology-requirements.php>).
4. Submit a personal statement reflecting relevant personal and academic background and experience. The statement should be a minimum of 250 words and a maximum of 500 words (1-2 pages).
5. Submit a current resume or curriculum vitae.
6. 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 online (<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 the website (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.

Students in graduate certificate programs at Wayne State must maintain a minimum grade point average of 3.0. The fifteen-credit Archival Administration Certificate includes six credits of required coursework and nine credits of elective coursework. 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 Courses

9

LIS 7710
LIS 7780

LIS 7970

Electives

Select two of the following:

6

LIS 6780

LIS 7450

LIS 7730

LIS 7740

LIS 7750

LIS 7770

LIS 7885

Total Credits

15

¹ Prerequisite: LIS 7710

Information Management (Graduate Certificate)

The Graduate Certificate in Information Management (IM) serves the needs of those who wish to enter the rapidly expanding information field. This 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. Computers and productivity tools are helping knowledge workers in accessing information, generating insights, structuring results into a useful format, and producing knowledge simultaneously. The use of these productivity tools by knowledge workers requires that information professionals alter their perceived traditional professional role so that they can provide expanded services and support to these knowledge workers as well as to continue to perform their traditional professional responsibilities.

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 Requirements

Admission to the School is contingent upon admission to the Graduate School (p. 17). 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 2.50 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. You may register online (<http://www.ets.org/gre>). Wayne State University's institution code is 1898.

For tests taken on or after August 1, 2011: A total score of 294 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 153.

For tests taken prior to August 1, 2011: A total score of 950 on the combined verbal and quantitative portions. The verbal portion must have a score of at least 500.

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3. Meet the SLIS Technology Requirements online (<http://www.slis.wayne.edu/technology-requirements.php>).
4. Submit a personal statement reflecting relevant personal and academic background and experience. The statement should be a minimum of 250 words and a maximum of 500 words (1-2 pages).
5. Submit a current resume or curriculum vitae.
6. 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 online (<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 the website (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.

Students admitted to the Information Management Graduate Certificate Program will be required to complete a minimum of 15 graduate credits. If this certificate is combined with the Master of Library and Information Science degree, 18 hours in the professional core, 15 hours in the Information Management specialization and 9 hours of elective courses will be required.

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 are required to complete an additional six credits beyond the thirty-six required for the M.L.I.S. degree:

Prerequisite

LIS 6080	¹	3
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Information Management Electives

LIS 7410	3
LIS 7415	3
LIS 7420	3
LIS 7430	3
LIS 7440	3
LIS 7460	3
LIS 7470	3
LIS 7490	3
LIS 7491	3
LIS 7492	3
LIS 7500	3

LIS 7610	3
LIS 7620	3
LIS 7940	3
LIS 7960	3
LIS 8000	3

¹ Prerequisite for all Information Management coursework. Please note: LIS 6080 must have been successfully completed within the last three years.

Library and Information Science (Specialist Certificate)

The Specialist Program in Library and Information Science is a postmaster's certificate curriculum designed for the practicing professional who requires specialized competence in an area of librarianship or information management, 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 (p. 17). 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 (<http://www.slis.wayne.edu/technology-requirements.php>).

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.

Public Library Services to Children and Young Adults (Graduate Certificate)

The Graduate Certificate in Public Library Services to Children and Young Adults is intended for: practicing library professionals who need to advance their competency in the field of children and youth services; SLIS graduate students wishing to pursue a professional career in children and youth services; and graduate students from other disciplines and professions who wish public library and youth services skills to aid their organizations in meeting community needs.

Children and young adults comprise a high proportion of the patrons of public libraries—from large urban library systems to suburban library districts to small rural independent libraries. Services to children and young adults requires specialized training in the development of programs, the creation of effective collections, and the skills necessary to collaborate with community organizations who serve children and young adults. Students completing the certificate will be able to: develop effective programs and outreach services for children and young adults in public libraries; create appropriate collections, both print and electronic, for children and young adults in public libraries; and collaborate with community agencies, such as schools, social services, health organizations, to provide needed instruction and support for children and young adults.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

The certificate may be completed in conjunction with the MLIS degree or as a post-MLIS certificate. The fifteen-credit Public Library Services to Children and Young Adults Certificate program includes nine credits of required coursework and six credits of electives. 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 Courses

LIS 7250	3
LIS 7420	3
LIS 7340	3

Elective Courses

Select six credits of the following:	6
LIS 6510/ RLL 7720	
LIS 6520/ RLL 7740	
LIS 6530/ EED 6310	
LIS 6550/ RLL 7780	
LIS 7850	(with permission of Certificate Lead Instructor)

LIS 7880

Total Credits

15

School of Library and Information Science Faculty

ANGHELESCU, HERMINA G.B.: Ph.D., MLIS, University of Texas at Austin; M.A., University of Bucharest; Associate Professor

BAJJALY, STEPHEN T.: Ph.D., State University of New York at Albany; M.B.A., San Diego State University; B.S., St. Lawrence University; Professor

BEAUDOIN, JOAN E.: Ph.D., M.S.L.I.S., Drexel University; M.A., Temple University; B.F.A., Massachusetts College of Art; Associate Professor

CHARBONNEAU, DEBORAH H.: Ph.D., Wayne State University; M.L.S., B.A., University of Pittsburgh; Assistant Professor

D'ARPA, CHRISTINE: Ph.D., M.S., University of Illinois at Urbana-Champaign; B.A., Northeastern Illinois University ; Assistant Professor

HOLLEY, ROBERT P.: Ph.D., Yale University; MLS, Columbia University; B.A., Xavier University; Professor Emeritus

HOOK, PETER A.: Ph.D., Indiana University; M.S., University of Illinois at Urbana-Champaign; J.D., B.A., University of Kansas; Assistant Professor

KUMASI, KAFI D.: Ph.D., Indiana University; M.L.I.S., Wayne State University; B.S., University of Michigan; Associate Professor

LI, BIN: Ph.D., University of North Carolina at Chapel Hill; M.A., B.A., Beijing Foreign Studies University; Lecturer

MIKA, JOSEPH J.: Ph.D., M.L.S., B.A., University of Pittsburgh; Professor Emeritus

POWELL, RONALD R.: Ph.D., University of Illinois; M.S., Western Michigan University; A.B., University of Missouri; Professor Emeritus

SCHROEDER, KIMBERLY A.: M.L.I.S., Wayne State University; B.S., Michigan State University; Lecturer

SHEBLE, LAURA: Ph.D., University of North Carolina, Chapel Hill; M.L.I.S., Wayne State University; B.S., Auburn University; Assistant Professor

SPYERS-DURAN, PETER: Ed.D., Nova University; M.A., University of Chicago; Professor Emeritus

WALSTER, DIAN E.: Ph.D., M.Lib., University of Washington; B.A., Central Washington State College; Professor

ZHANG, XIANGMIN: Ph.D., University of Toronto; M.A., B.A., Peking University; Assistant Professor

SCHOOL OF MEDICINE

Dean: Jack Sobel

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 Public Health degrees. Graduate education in clinical fields, postdoctoral 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 medical degree program and approximately 400 students are enrolled in doctoral or master's degree study in 19 program areas, including the medical degree/doctoral combined-degree program. More than 900 students are post-graduate trainees as medical residents, post-doctoral fellows, or fellows in 29 clinical research programs. Continuing education programs, seminars and colloquiums serve the faculty and students, 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 Wayne State University. Non-degree enrollment in basic science courses at the graduate level is permitted on a limited basis for qualified students.

Research focusing on human health is the foundation of activities in the School of Medicine. Fundamental and applied research in biomedical sciences, clinical specialties and health care systems is directed by the faculty. Research programs 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. Research facilities are modern, well-equipped and grow continually with the pace of technological advances.

Clinical services provided by the faculty, post-graduates and students 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 14 other hospitals throughout the metropolitan area for the purpose of conducting undergraduate and graduate medical education.

The school's mission includes 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. The school is committed to its educational and health care delivery activities within the context of medical education as a national activity, to which each institution contributes responsibly according to its abilities and resources.

History of the School

The Wayne State University School of Medicine has been operating and granting degrees as a school 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 then known, became an official part of the Detroit Board of Education and thus an important unit in the rapidly developing Colleges of the City of Detroit. In 1933, the name of the Colleges of the City of

Detroit changed to Wayne University in honor of American Revolutionary War hero Gen. Anthony Wayne. Wayne University became a state institution in 1956.

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 (the medical doctor 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.

Shiffman Medical Library and Learning Resources Centers

Director: Sandra I. Martin

Librarians: Katherine Akers, LaVentra Ellis-Danquah, Wendy Gang Wu
Library services are provided to graduate students through a variety of programs held at the newly renovated Shiffman Medical Library (<http://www.lib.wayne.edu/shiffman>) in the Richard J. Mazurek Medical Education Commons. Resources and services are also available online including over 4700 online journals in the health sciences, a growing number of e-books. Services include reference support 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 email (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, Scopus, 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.

The library's goal is to support each graduate student's individualized needs through graduation and for self-directed, life-long learning. 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 standalone 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 and Career Development: Lisa MacLean, M.D.

The Office of Student Affairs (<https://www.med.wayne.edu/ume-student-affairs>) is under the supervision of an assistant dean. Services include: career and supportive counseling; crisis intervention; liaison for referrals; academic advising; guidance for residency application; support for student government and organization activities as well as oversight of Special Events, the Health and Wellness Program and the Medical Student Faculty Mentoring Program. The staff is committed to assisting students in every way possible as the students work toward M.D. degrees. These programs are part of the School's commitment to provide each matriculant with support services so that the rigorous educational program can be presented within as comfortable an environment as possible.

Counseling: Appointments for confidential supportive and career counseling can be arranged through the Office of Student Affairs.

Mentoring: Faculty mentors are provided through the Office of Student Affairs for the purpose of giving guidance and support to the medical students throughout their medical school careers.

Health and Wellness: Health and Wellness Program was developed so that each student optimizes healthy coping strategies, finds good balance and achieves academic success throughout medical school.

Development Office

Office: 540 E. Canfield, 1369 Scott Hall; Detroit, MI 48201

Associate Vice President: Stephen Henrie, CFRE

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, 1369 Scott Hall, Detroit, MI 48201

Associate Director of Alumni Affairs: Dian Puhl

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, 1320 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.

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.

Medical School Calendar, 2016 - 2018

The following calendar is a tentative schedule for the M.D. curriculum.

Year I Students: 2016 - 2017

Registration and Orientation: Mon.-Fri., Jul. 25-Jul 29, 2016

Classes Begin: Mon., Aug. 1, 2016

Labor Day: Mon., Sept. 5, 2016

Recess:

Thanksgiving: Thurs. and Fri., Nov. 24-25, 2016

Recess:

Winter Recess: Tues., Dec. 20, 2016 - Mon., Jan. 2, 2017

Spring Recess: Mon.-Fri., Feb. 20-24, 2017

Classes End: Fri., May 5, 2017

Year II Students: 2016 - 2017

Registration: Mon.-Fri., Jul. 11-15, 2016

Classes Begin: Mon., Aug. 1, 2016

Labor Day: Mon., Sept. 5, 2016

Recess:

Thanksgiving: Thurs. and Fri., Nov. 24-25, 2016

Recess:

Winter Recess: Mon., Dec. 16, 2016 - Mon., Jan. 2, 2017

Martin Luther: Mon., Jan. 16, 2017

King Jr. Recess:

Spring Recess: Mon.-Fri., Mar. 13-17, 2017

Classes End: Mon., June 23, 2017

Year III Students: 2016 - 2017

Registration: Mon.-Fri., Jun. 13-17, 2016

Classes Begin: Thurs., Jun. 30, 2016

Orientation: Thurs. and Fri., June 30-Jul. 1, 2016

Independence	Mon., July 4, 2016
Day Recess:	
Labor Day	Mon., Sept. 5, 2016
Recess:	
Thanksgiving	Thurs. and Fri., Nov. 24-25, 2016
Recess:	
Winter Recess:	Thurs., Dec. 20, 2016-Mon., Jan. 2, 2017
Martin Luther	Mon., Jan. 16, 2017
King Jr. Recess:	
Memorial Day	Mon., May 29, 2017
Recess:	
Rotation I:	July and Aug., 2016
Rotation II:	Sept. and Oct., 2016
Rotation III:	Nov. and Dec., 2016
Rotation IV:	Jan. and Feb., 2017
Rotation V:	Mar. and April, 2017
Rotation VI:	May and Jun., 2017
OSCE	To Be Announced
Examination:	
Classes End:	Fri., Jun. 16, 2017

Year IV Students: 2016-2017

Registration:	Mon.-Fri., June 13-17, 2016
Classes Begin:	Fri., July 1, 2016
Period 1:	July, 2016
Period 2:	Aug., 2016
Period 3:	Sept., 2016
Period 4:	Oct., 2016
Period 5:	Nov., 2016
Period 6:	Dec., 2016
Period 7:	Jan., 2017
Period 8:	Feb., 2017
Period 9:	Mar., 2017
Period 10:	April, 2017
Period 11:	May, 2017
Residency Match	Mar., 2017
Day:	
Classes End:	May 31, 2017
Commencement:	June, 2017

Year I Students: 2017- 2018

Registration and	Mon.-Fri., Jul. 24-Jul 28, 2017
Orientation:	
Classes Begin:	Mon., Jul. 31, 2017
Labor Day	Mon., Sept. 4, 2017
Recess:	
Thanksgiving	Thurs. and Fri., Nov. 23-24, 2017
Recess:	
Winter Recess:	Dec., 2017
Martin Luther	Mon., Jan. 15, 2018
King Jr. Recess:	
Spring Recess:	Mar., 2018
Classes End:	May 8, 2018

Year II Students: 2017- 2018

Registration:	Mon.-Fri., Jul. 10-14, 2017
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Classes Begin:	Mon., Jul. 31, 2017
Labor Day	Mon., Sept. 4, 2017
Recess:	
Thanksgiving	Thurs. and Fri., Nov. 23-24, 2017
Recess:	
Winter Recess:	Dec., 2017
Martin Luther	Mon., Jan. 15, 2018
King Jr. Recess:	
Spring Recess:	Mar., 2018
Classes End:	June 22, 2018

Year III Students: 2017-2018

Registration:	Mon.-Fri., Jun. 15-9, 2017
Orientation/Begin	Jun., 2017
Classes:	
Independence	Tues., July 4, 2017
Day Recess:	
Labor Day	Mon., Sept. 4, 2017
Recess:	
Thanksgiving	Thurs. and Fri., Nov. 23-24, 2017
Recess:	
Winter Recess:	Dec., 2017
Martin Luther	Mon., Jan. 15, 2018
King Jr. Recess:	
Memorial Day	Mon., May 28, 2018
Recess:	
Rotation I:	July and Aug., 2017
Rotation II:	Sept. and Oct., 2017
Rotation III:	Nov. and Dec., 2017
Rotation IV:	Jan. and Feb., 2018
Rotation V:	Mar. and April, 2018
Rotation VI:	May and Jun., 2018
OSCE	To Be Announced
Examination:	
Classes End:	Jun., 2018

Year IV Students: 2017-2018

Registration:	Mon.-Fri., June 12-16, 2017
Period 1:	July, 2017
Period 2:	Aug., 2017
Period 3:	Sept., 2017
Period 4:	Oct., 2017
Period 5:	Nov., 2017
Period 6:	Dec., 2017
Period 7:	Jan., 2018
Period 8:	Feb., 2018
Period 9:	Mar., 2018
Period 10:	April, 2018
Period 11:	May, 2018
Residency Match	Mar., 2018
Day:	
Classes End:	May 31, 2018
Commencement:	June, 2018

Medicine (M.D. Program)

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.

Required 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.

Additionally, starting with students admitted for the 2014-2015 academic year, it is strongly recommended that students take a course in statistics, ethics, and biochemistry. 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 August freshman class should take this test no later than September 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 three weeks in which to make a written reply.
3. No student who has at any time been requested to withdraw for any reason from a medical school in which he/she has been registered 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.
4. 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 third year 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

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 extracurricular 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.

Disability Insurance is mandatory and can be purchased at registration.

Criminal Background Check: All accepted applicants to the medical school will be required to complete a criminal background check through AMCAS and Certiphi, the selected vendor for criminal background checks.

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.

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)

(<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 (<https://www.med.wayne.edu/ume-financial-aid>) website.

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 full and partial tuition scholarships to a number of incoming freshmen per year in the amount of resident tuition. Partial tuition Board of Governors grants are awarded each year based on family financial need. Restricted private donor and private organization funds are awarded to students who demonstrate financial and merit-based criteria 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. Credit-based private educational loan programs generally require that non-U.S. students provide a credit worthy 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 primary 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 nonprofit 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.

Academic Program

The Office of Undergraduate Medical Education is responsible for the overall management, administration, and supervision of the undergraduate medical curriculum. 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, translational medicine 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, students take a translational medicine course and 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, and a month of emergency 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. 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.

Grading

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.

Graduation Requirements

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) and Step 2 (clinical skills) of National Board examinations.

M.D. Curriculum

Year 1

Required courses

MD1 5000	Gross Anatomy	12
MD1 5100	Histology/Embryology	6
MD1 5200	Biochemistry	6
MD1 5300	Physiology	6
MD1 5400	Medical Genetics	3
MD1 5500	Clinical Nutrition	3
MD1 5600	Neuroscience	8

Year 2

Required courses

MD2 6000	Immunology / Microbiology / Infectious Disease	10
MD2 6100	Pharmacology	5
MD2 6200	Psychiatry	3
MD2 6300	Pathobiology	5
MD2 6400	Pathophysiology	18
MD2 6500	Clinical Medicine II	7
MD2 6520	Translational Medicine II	2

Year 3

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	3
MD3 7100	Family Medicine Clerkship	4

MD3 7200	Internal Medicine Clerkship	8
MD3 7300	Pediatrics Clerkship	8
MD3 7400	Surgery Clerkship	8
MD3 7500	Psychiatry Clerkship	4
MD3 7600	Obstetrics and Gynecology Clerkship	8
MD3 7700	Neurology Clerkship	4

Year 4

Required Course:

MD4 8160	Emergency Medicine Subinternship
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Required Sub-internship (choose 1 of 4 sub-internships below to fulfill the requirement):

MD4 8210	Family Medicine Subinternship
MD4 8470	Internal Medicine Subinternship
MD4 9210	Pediatric Subinternship
MD4 9490	Surgery Subinternship

Required MD4 Electives: six 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 electives at any one of the participating medical schools:

- Wayne State University
- University of Michigan
- Michigan State University
- 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 in the School of Medicine.

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 and country.

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.

Other types of CME activities offered by the Wayne State University School of Medicine include journal based CME, web based CME and CME associated with Learning from Teaching.

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 (CME)

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 (GME)

Associate Dean and Designated Institutional Official: Tsveti Markova, MD, FAAFP

Graduate Medical Education (GME) at Wayne State University (WSU) is an essential element of a diverse and rich academic environment encompassing many specialties and sub-specialties 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. GME provides service to our communities, support to our peers, and training to our residents, and extends our medical knowledge, compassion and skills toward our mission of patient safety and quality healthcare for today and tomorrow. Wayne State University as a sponsoring institution has achieved the maximum Accreditation Council for Graduate Medical Education (ACGME) accreditation status with no citations and a commendation. The next site visit is scheduled in 2024.

WSU is the sole sponsoring institution of nine Graduate Medical Education programs for 150 residents and fellows in the following areas:

- Dermatology

- Family Medicine
- Internal Medicine
- Ophthalmic Plastic and Reconstructive Surgery
- Orthopaedic Surgery
- Otolaryngology
- Physical Medicine and Rehabilitation
- Urology
- Transitional Year.

These programs are based mainly at: Crittenton Hospital Medical Center (CHMC), Oakwood Hospital and Medical Center, Oakwood Heritage Hospital, Barbara Ann Karmanos Cancer Institute, and John Dingell Veterans Administration Medical Center, our hospital partners, to assure an optimal learning environment.

The School of Medicine, through its Graduate Medical Education Committee (GMEC) and the Office of Graduate Medical Education, holds the ultimate responsibility for all GME programs sponsored by the university. The Office of GME tracks program outcome measures, conducts extensive internal reviews of each GME program, and ensures that each program teaches and assesses the ACGME general competencies and associated milestones in the areas of: patient care, medical knowledge, practice-based learning and Improvement, interpersonal and communication skills, professionalism, and systems-based practice. Other GME office responsibilities include:

- Demonstrating an overall commitment to GME;
- Maintaining affiliation agreements with other institutions participating in GME;
- Monitoring the Joint Commission status of participating institutions;
- Ensuring that formal quality assurance programs are conducted at participating institutions;
- Monitoring eligibility and selection of residents;
- Monitoring all aspects of resident appointment;
- Ensuring resident participation in:
 - educational and professional activities,
 - patient safety and quality of care education,
- Overseeing the residents' work environment; and adhering to the ACGME Duty Hour standards.
- Development and implementation of residency and faculty educational programs,
- Oversight of Graduate Medical Education Committee,
- Designing curricula and oversee the development of scholarship and research,
- Organizing an annual GME orientation and
- Overall design and implementation of policies and procedures adhering to the ACGME requirements.

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.

In addition to the WSU-sole sponsored programs, the SOM has affiliated GME programs with two major regional health care systems: Detroit Medical Center and Henry Ford Health System. Wayne State University Affiliated Programs:

- DMC-Sponsored Programs: Accredited Programs: 49 with 670 residents/fellows
- Henry Ford-Sponsored Programs: Accredited Programs: 48 with 613 residents/fellows

For more information visit the WSUSOM GME web site at: <http://gme.med.wayne.edu>.

Clinical Sciences

The Wayne State University School of Medicine has a distinguished history of producing the nation's finest physicians and researchers. That reputation continues to be built upon today, making the university not only a center for medical education, but the source of groundbreaking clinical research put into practice around the world.

The clinical science departments in the School of Medicine provide medical students with opportunities for clinical learning and research in over fifteen academic disciplines.

Anesthesiology

Office: St. Joseph Mercy Oakland, Medical Office Building, 44555 Woodward Avenue, Suite 306, Pontiac, MI 48341 248-858-2259
Chairperson: Terry A. Ellis, II

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.

Dermatology

Office: 18100 Oakwood Blvd., Suite 300; Dearborn; MI 313-429-7843
Chairperson: Darius R. Mehregan
Associate Chairperson: David A. Mehregan
<http://www.dermatology.med.wayne.edu/>

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
Chairperson: Brian J. O'Neil

<http://em.med.wayne.edu/>

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;
3. and 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.

Family Medicine and Public Health Sciences

Office: 3939 Woodward Avenue, 313-577-1421
Chairperson: Tsveti Markova, M.D., F.A.A.F.P.

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.

The MPH Program (p. 256) 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 educational programs.

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.

M.D. Medical 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 required six-month Continuity Clinic Clerkship during the year three primary care block is administered through the Department. All students are placed individually with a primary care physician in the Detroit metropolitan area. Students spend one-half day per week in the clinic of their assigned preceptor. This course introduces students to the basic principles of outpatient practice in the context of a continuity of care model.

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 sub-internship 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

Graduate education includes three residency programs; the WSU Family Medicine Residency at Crittenton Hospital Medical Center (CHMC), the WSU Transitional Year residency program at CHMC and the DMC-WSU Family Medicine Residency Program at Sinai Grace Hospital. These programs integrate academic resources, competency-based curricula, a web-based evaluation system and state of the art technology. Education is focused on patient-centered care and integration of biological, clinical, and behavioral sciences. The scope of practice includes outpatient and inpatient care and encompasses all ages, both sexes, every organ system and every disease entity.

Our Family Medicine residents are trained to provide comprehensive medical care to each member of the family throughout the life cycle from birth to end of life care. During their training, Family Medicine residents master more than 20 different clinical procedures. Transitional Year residents complete one year of intensive clinical training prior to completing their training in a specialty residency such as Dermatology, Ophthalmology, Anesthesiology, and Radiation Oncology.

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 other public service agencies.

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. Our faculty also have substantial research interests in public health including studies of the psychological and social determinants of health, disparities in women's and children's health, and the biostatistical methods employed to

analyze these studies. The Department also has strong research ties with the Eugene Applebaum College of Pharmacy and Health Sciences, the Institute for Environmental Health Sciences, Center for Urban Responses to Environmental Stressors, the Karmanos Cancer Institute, the Institute of Gerontology, and the CS Mott Center for Human Growth and Development.

Internal Medicine

Office: 2E University Health Center; 745-8244

Interim Chairperson: Basim Dubaybo

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; 313-745-4523

Chairperson: Sandeep Mittal

<http://neurosurgery.med.wayne.edu>

The goal of the Department of Neurological Surgery is to acquaint 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 neurosurgical teaching program, the Department curriculum emphasizes the surgical aspects of cerebral and spinal disease and problems. 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 neuroscience research. 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,

Sinai-Grace, 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, neuro-oncology, skull base surgery, aneurysms and AVM clinical studies, traumatic brain injury, and hydrocephalus. The Department of Neurological Surgery operates a microsurgical laboratory for residents and participates in ongoing research projects requiring training in microsurgical techniques and microsurgical anatomy. The residents also participate actively in tumor research at Karmanos Cancer Institute.

Neurology

Office: 8D University Health Center; 313-577-1242

Interim Chairperson: Omar A. Khan

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 responsibilities 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

Office: 3750 Woodward, Suite 200; 313-993-4514

Interim Chairperson: Theodore B. Jones

<http://obgyn.med.wayne.edu/>

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 sub-specialty 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 sub-specialty 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.

The graduate program concentrating in the reproductive sciences is included with the Doctor of Philosophy in Physiology (p. 255).

Ophthalmology

Office: K-220 Kresge Eye Institute; 313-577-1355

Chairperson: Mark S. Juzych, M.D., M.H.S.A.

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 a large number of 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 through an elective rotation.

Orthopaedic Surgery

Office: 18100 Oakwood Blvd, Suite 300, Dearborn, MI 48124;

313-429-7970, Fax: 313-429-7975

Chairperson: Lawrence G. Morawa

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: Ho-Sheng Lin

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 problems to the entire curriculum in medicine and surgery.

Pediatrics

Office: 1K40 Children's Hospital; 313-745-5870
Chairperson: Steven E. Lipshultz

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.

Physical Medicine and Rehabilitation - DMC

RIM Office: 840 Rehabilitation Institute of Michigan;
Tel: 313-745-1218; Fax: 313-745-1063
Chairperson: Lawrence Horn, MD

Rehabilitation Sciences Administration (Graduate Certificate)

An admissions moratorium is currently in effect for this program.

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 for the PM&R DMC program and at the following institutions: DMC Children's Hospital, Detroit Receiving Hospital, Harper Hospital, Karmanos Cancer Hospital, and Veterans' Administration Hospital.

Physical Medicine and Rehabilitation- Oakwood

Oakwood Office: 18181 Oakwood Blvd. Suite 411: Dearborn, MI 48124; Tel.: 313-438-7373 Fax: 313-438-7375
Chairperson: Jay M. Meythaler, J.D., M.D.

Rehabilitation Sciences Administration (Graduate Certificate)

An admissions moratorium is currently in effect for this program.

The Department of Physical Medicine and Rehabilitation Oakwood 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 Beaumont Oakwood Hospitals, primarily in Dearborn and Taylor, the principal teaching facilities of the Department for the PM&R Oakwood.

Psychiatry and Behavioral Neurosciences

Office: Tolan Park Medical Building, Suite 5-A, 3901 Chrysler Service Drive; 313-577-1808
Chairperson: David R. Rosenberg, M.D.
<http://psychiatry.med.wayne.edu/>

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).

Radiology

Office: 3L-8, Detroit Receiving Hospital; (132)5-3430

Chairperson: Wilbur L. Smith

<http://www.radiology.med.wayne.edu/>

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.

Surgery

Office: 6th Floor, University Health Center; 313-577-5013

Chairperson: Donald Weaver

www.wsusurgery.com (<http://www.wsusurgery.com>)

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

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.

Graduate Programs of the School of Medicine

Academic Regulations Governing Master's and Doctoral Degrees

Advanced study programs leading to the Doctor of Philosophy and Master of Science degrees are available in the School of Medicine. Their primary purpose is to provide an opportunity for graduate training in preparation for careers in biomedical research including those in academia, industry, biotechnology, and government. In addition, the programs are designed to provide an educational springboard into a wide variety of related careers including those in medicine, intellectual property (patent) law, regulatory affairs, compliance, healthcare management, science advocacy/policy, teaching, scientific writing, clinical and translational sciences, forensics, and environmental affairs, among others.

Graduate students enter a community of team-oriented scholars and are expected to become acquainted with the development of a main area of study and its relationship to other pursuits. Students should develop into independent and self-directed learners and researchers, acquire useful perspectives on the meaning and limitations of exact science, and 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, supervise laboratory training, and help navigate career options.

For complete information regarding the academic rules and regulations of the University, students should consult Academic Regulations (p. 12) of this bulletin. The following additions and amendments pertain to the School of Medicine.

Admission

Admission to these graduate programs is contingent upon admission to the Graduate School (p. 17). Requests for program-specific information and requirements should be made directly to the program of interest. Mailing address and individuals to contact are cited below.

Application

Applicants must complete/submit:

1. University Graduate School application;
2. official transcripts of all undergraduate (and graduate) academic work;
3. Graduate Record Examination scores, verbal, quantitative and analytical writing components.

Individual programs may have additional application requirements, including higher standards for G.P.A. and English proficiency than the Graduate School. Students for whom English is not their native language will be required to demonstrate competency in verbal and written English within the first year of study.

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.

The recommended procedure for application is:

1. Consult departmental websites and/or contact the appropriate Graduate Officer for additional information and forms relevant to that program;
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 graduate assistantships and fellowships are awarded in the months of February and March; late applicants may have very limited opportunities for this type of financial assistance. Additional financial aid may be available through the Office of Student Financial Aid (<http://finaid.wayne.edu>).

Master of Science Degrees

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 under Master's Degrees (p. 34).

Doctor of Philosophy Degrees

Programs leading to the Doctor of Philosophy degree in the basic medical sciences are under the jurisdiction of the Graduate School of the University. 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 during their first year. The IBS is a broad-based curriculum involving courses in Interdisciplinary Molecular and Cellular Biology and selected courses in the systems curriculum. Department and program-specific course requirements and additional information may be found in the individual descriptions of each Ph.D. program.

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.

Interdisciplinary Biomedical Sciences (Ph.D.)

The School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum is open only to doctoral students in the School of Medicine. 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. The IBS curriculum includes:

Foundational Course

IBS 7015	Interdisciplinary Cell and Molecular Biology
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Two additional courses chosen from the following:

IBS 7030	Functional Genomics and Systems Biology
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IBS 7050	Biomedical Neurobiology
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IBS 7090	Biomedical Immunology
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IBS 7100	Biomedical Neuropharmacology
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IBS 7110	Introduction to the Business of Biotechnology
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IBS 7115	Special Topics in Biotechnology Commercialization
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IBS 7130	Systems Neuroscience: Structure and Function of the Nervous System
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IBS 7140	Foundations of Computational Biology
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Admission of other students requires the consent of the curriculum director.

Joint M.D. and Ph.D. Program

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 (p. 241), the Graduate School (p. 35), and the individual departments involved.

- Anatomy and Cell Biology (p. 243)
- Basic Medical Sciences (M.S.) (p. 244)
- Biochemistry and Molecular Biology (p. 245)
- Clinical and Translational Science (Bridge Graduate Certificate) (p. 246)
- Genetic Counseling (M.S.) (p. 246)
- Immunology and Microbiology (p. 247)
- Medical Research (M.S.) (p. 248)
- Molecular Genetics and Genomics (p. 249)
- Oncology (p. 250)
- Pathology (p. 253)
- Pharmacology (p. 253)
- Physiology (p. 255)
- Public Health Programs (p. 256)
- Translational Neuroscience (Ph.D.) (p. 257)

Anatomy and Cell Biology

Office: 8374 Scott Hall; 313-577-1061

Chairperson: Linda D. Hazlett

<http://www.anatomy.med.wayne.edu/>

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, 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.

- Anatomy and Cell Biology (M.S. and Ph.D.) (p. 243)

Anatomy and Cell Biology (M.S. and Ph.D.)

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, 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.

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), 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.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

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 research activities as a component of their educational experience.

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.

During their first year, Ph.D. students typically enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum.

IBS Systems Curriculum

IBS 7015	Interdisciplinary Cell and Molecular Biology	7
IBS 7030	Functional Genomics and Systems Biology	2
IBS 7050	Biomedical Neurobiology	2
IBS 7090	Biomedical Immunology	2
IBS 7100	Biomedical Neuropharmacology	2
IBS 7110	Introduction to the Business of Biotechnology	3
IBS 7115	Special Topics in Biotechnology Commercialization	1
IBS 7130	Systems Neuroscience: Structure and Function of the Nervous System	2
IBS 7140	Foundations of Computational Biology	3

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.

Candidates for the Ph.D. are required to select at least two subdiscipline courses in anatomy and cell biology from the following:

ANA 7010	Human Gross Anatomy	8
ANA 7030	Human Microscopic Anatomy	4
ANA 7080	Human Embryology	3
ANA 7130	Neuroanatomy	4

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, ANA 9992, ANA 9993, and ANA 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

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, ANA 7065, and ANA 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.

Basic Medical Sciences (M.S.)

Office: 1128 Scott Hall

Program Director: George S. Brush, 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 below).

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.

Admission Requirements

Admission to the BMS program is contingent upon admission to the Graduate School (p. 17). A minimum of a bachelor's degree or equivalent is required. A major in a biological or chemical science is preferred; applicants with other majors will be considered. Applicants must have completed at least one year of general biology, two years of chemistry (inorganic and organic), and one year of physics at the undergraduate level or above. An earned cumulative Grade Point Average of 3.0 together with strong science grades are required for regular

admission. Applications must be submitted online (see url at the end of this paragraph). A complete application requires submission of the basic application form, a statement of purpose, three letters of recommendation, transcripts from all prior academic institutions in which the applicant is/was enrolled, and a recent standardized test score (original or copy): either MCAT, DAT, GRE or PCAT. Copies of transcripts may be submitted for application review; however, the Graduate School will require submission of an official transcript showing degree awarded prior to enrollment.

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 (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

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	4
CB 7210	Fundamentals of Cancer Biology	3
IM 7010	Fundamentals of Immunology	2
IM 7020	Fundamentals of Microbiology	2
IM 7030	Molecular Biology of Viruses	2
IM 7520	Molecular Mechanisms of Bacterial Pathogenesis	2
MGG 7010	Molecular Biology and Genetics	4
PHC 6500	Drugs and the Addictive Process	3
PHC 7010	Pharmacology Lecture	4
PHC 7410	Principles of Toxicology	3
PSL 7010	Basic Graduate Physiology Lecture I	4
PSL 7030	Basic Graduate Physiology Lecture II	4
PTH 7500	Systemic Pathophysiology	3
PYC 7010	Neurobiology I	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 may also be 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.

Biochemistry and Molecular Biology

Office: 4374 Scott Hall; 313-577-1511

Chairperson: Bharati Mitra

<http://www.biochem.med.wayne.edu/>

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, role of metals in biology and disease, bioenergetics, enzymology, the molecular basis of drug resistance, and new approaches to therapy in cancer and cardiovascular disease. 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 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.

- Biochemistry and Molecular Biology (M.S.) (p. 245)
- Biochemistry and Molecular Biology (Ph.D.) (p. 245)

Biochemistry and Molecular Biology (M.S.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. 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.

Applicants for the Master of Science degree must complete the following coursework, including at least eight credits of master's research. Required coursework includes the following:

BIO 6000	Molecular Cell Biology I	3
BMB 7010	General Biochemistry Lecture	4
BMB 7030	Core Concepts in Technologies in Biochemistry and Molecular Biology	4
BMB 7320	Protein Structure and Function	3
BMB 7330	Advanced Molecular Biology	2
or BMB 7360	Advanced Structural Biology	

BMB 7890	Journal Club (First Year)	1
BMB 7890	Journal Club (Second Year)	1
BMB 7996	Research (First Year)	2
BMB 7996	Research (Second Year)	6
BMB 8999	Master's Thesis Research and Direction	8
Total Credits		34

The completion of an original research project and the preparation and presentation of a thesis are the primary activities of the second year.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Biochemistry and Molecular Biology (Ph.D.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. Students must have completed an undergraduate degree, and preferred majors include chemistry, biology, or physics (although students with other majors 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.

Assistantships and Research

The Department has graduate assistantships and graduate research positions available for a number of qualified students. All students accepted into the Ph.D. 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 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. M.S. students are not financially supported by the program, but may be hired as research assistants.

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. 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 one course in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum and one course offered by the department or a research elective:

IBS 7015	Interdisciplinary Cell and Molecular Biology	7
In addition three credit hours of research (BMB 7996) or an elective should be taken for a total of 10 credit hours during the first semester.		3
Select four credits of additional courses of the following:		4
IBS 7030	Functional Genomics and Systems Biology	
IBS 7050	Biomedical Neurobiology	
IBS 7090	Biomedical Immunology	

IBS 7100	Biomedical Neuropharmacology	
IBS 7110	Introduction to the Business of Biotechnology	
IBS 7115	Special Topics in Biotechnology Commercialization	
IBS 7130	Systems Neuroscience: Structure and Function of the Nervous System	
IBS 7140	Foundations of Computational Biology	

Required Departmental courses include:

BMB 7320	Protein Structure and Function	3
BMB 7330	Advanced Molecular Biology	2
BMB 7890	Journal Club (Max. 6, one credit per academic year. Students participate in Journal Club every semester while in the BMB program.)	1

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. Areas of minor concentration include organic chemistry, physical chemistry, physical-organic chemistry, microbiology or immunology, pharmacology, physiology, biology, and computer science.

The thirty credit dissertation registration requirement is fulfilled by registering for the courses BMB 9991, BMB 9992, BMB 9993, and BMB 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Clinical and Translational Science (Bridge Graduate Certificate)

Certificate Director: Daniel A. Walz, Ph.D.

Office: School of Medicine Biomedical 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 Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), 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.

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 (p. 248). 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 accordance with the regulations of the Graduate

School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees, 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	1
FPH 7010	Seminar in Public Health	1
FPH 7240	Epidemiology	3
MDR 7090	Fellowship Writing	2
MDR 7100	Clinical Research Design	2
MDR 7110	Clinical Field Experience	2
PSL 7710	Disease States and Reproductive Processes (or equivalent course)	1

Total Credits		12
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Genetic Counseling (M.S.)

Office: 2375 Scott Hall; 313-577-6298

Program Director: Angela M. Trepanier, M.S., C.G.C.

Associate Director: Erin Carmany, M.S., CGC

The graduate program in Genetic Counseling is located in the Center for Molecular Medicine and Genetics (CMMG). 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. Genetic counselors also work in a variety of other settings including clinical laboratories, public health departments, universities, advocacy organizations, and public policy organizations. In addition to providing genetic counseling services to patients, genetic counselors may have roles in research, genetic testing, leadership, advocacy, public policy, and/or education.

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) and obtain research training as part of the research project process. This program is accredited by the Accreditation Council of Genetic Counseling.

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. Applicants must have a baccalaureate degree with a grade point average of at least 3.0 or equivalent. 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 shadow and/or speak with a genetic counselor to obtain in depth knowledge about the field before applying. The genetic counseling program also holds open houses 2-3 times a year to give applicants exposure to genetic counselors and genetic counseling situations. Advocacy experience is also a prerequisite to admission.

The Master of Science in Genetic Counseling is offered only as master's degree Plan B (p. 34), requiring a research project and including approximately forty-seven credits: thirty-two credits in core course work, six credits in clinical internships, six credits for the research project and three elective credits. Students should contact the Program Director (geneticcounseling@med.wayne.edu) for more details about required courses

Immunology and Microbiology

Office: 7374 Scott Hall; 313-577-1591

Chairperson: Philip E. Pelett

Deputy Chairperson: Harley Y. Tse

<http://www.immunomicro.med.wayne.edu>

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 immunity 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, structure-function properties of bacterial toxins, and mechanisms by which microbiomes affect animal behavior, human reproduction, and holobiont phenotypes. The Department consists of eight 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.

Assistantships and Research, Immunology and Microbiology

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. Departmental assistantships and fellowships are not available for M.S. students. M.S. applicants

should consult the Graduate School website for information on funding their education.

- Immunology and Microbiology (M.S.) (p. 247)
- Immunology and Microbiology (Ph.D.) (p. 247)

Immunology and Microbiology (M.S.) Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. 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.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Candidates must complete a minimum of thirty-three credits in course work and research in accordance with Plan A (p. 34), as outlined in this bulletin.

BMB 7010 or MGG 7010	General Biochemistry Lecture Molecular Biology and Genetics	4
IM 7040	Fundamentals of Research	2
IM 7010	Fundamentals of Immunology	2
IM 7030	Molecular Biology of Viruses	2
IM 7520	Molecular Mechanisms of Bacterial Pathogenesis	2
IM 7060	Laboratory Research	2
IM 7850	Research Conferences in Immunology and Microbiology	1-5
IM 7890	Seminar	1

Immunology and Microbiology (Ph.D.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. 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.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Students in the Immunology and Microbiology Department enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The curriculum includes:

IBS 7015	Interdisciplinary Cell and Molecular Biology	7
It also includes selection by the student in conjunction with the Departmental Graduate Officer of courses within the IBS Systems curriculum, including IBS 7090, Fundamentals of Immunology (two credits) and selections from other IBS Systems courses		
IM 7040	Fundamentals of Research	2
IM 7030	Molecular Biology of Viruses	2
IM 7520	Molecular Mechanisms of Bacterial Pathogenesis	2
IM 7996	Research	1-8

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 IM 9991, IM 9992, IM 9993 and IM 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.

Medical Research (M.S.)

Office: 1128 Scott Hall; 313-577-1455

Program Director: George S. Brush, Ph.D.

The Master of Science in Medical Research (M.S.M.D.R) program provides a broadly based, multi-disciplinary, human biology-oriented master's level education and requires basic and/or clinical biomedical research training. Admission to the program 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 and who are actively participating in Wayne State University School of Medicine affiliated post-graduate clinical medicine training, or are affiliated faculty members. The M.S.M.D.R 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.

An additional MSMDR program has been developed for students enrolled in the M.D. program at Wayne State University School of Medicine. The master's portion of this joint M.S.-M.D. program is designed to provide a multi-disciplinary, human biology-oriented education with basic and/or clinical research training. The program will be of value to medical students who wish to include research in their future careers, and will prepare them to understand how concepts, therapies, and technologies are translated from the laboratory to the clinic. Inquiries should be sent to the Program Director.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). Applications must be submitted online 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. For application review, a professional applicant must provide the M.S.M.D.R Program transcripts with proof of a degree from a professional degree-granting institution, either medical (M.D., D.O.), dental (D.D.S.), pharmaceutical (Pharm.D.) or equivalent. Copies of transcripts may be submitted for application review; however, the Graduate School will require submission of an official transcript showing degree awarded prior to enrollment. International

medical graduates must provide a valid certificate from the Educational Commission for Foreign Medical Graduates. A medical school applicant must be in good standing in the second or third year of the M.D. program at Wayne State University School of Medicine. Students who have completed the Medical Student Summer Research Fellowship are encouraged to apply.

The Master of Science in Medical Research is offered only as a Plan A master's program requiring completion of thirty credits, including an eight-credit thesis.

Courses

For students with professional degrees, 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	4
BMS 6010	Responsible Conduct in Biomedical Research	1
CB 7210	Fundamentals of Cancer Biology	3
FPH 7015	Biostatistics I	4
FPH 7210	Research Methods for Health Professionals	4
IM 7010	Fundamentals of Immunology	2
IM 7030	Molecular Biology of Viruses	2
IM 7520	Molecular Mechanisms of Bacterial Pathogenesis	2
MGG 7010	Molecular Biology and Genetics	4
MGG 7091	Scientific Communication	2
PHC 6500	Drugs and the Addictive Process	3
PHC 7010	Pharmacology Lecture	4
PHC 7410	Principles of Toxicology	3
PSL 7010	Basic Graduate Physiology Lecture I	4
PSL 7030	Basic Graduate Physiology Lecture II	4
PTH 7500	Systemic Pathophysiology	3
PYC 7010	Neurobiology I	3

For medical students, 12 credits from the M.D. program will be counted towards the M.S. degree:

MD1 5200	Biochemistry	6
MD1 5300	Physiology	6

The following courses are required:

BMS 6010	Responsible Conduct in Biomedical Research	1
MGG 7091	Scientific Communication	2
	or MDR 7090 Fellowship Writing	

In addition, a minimum of two courses must be chosen, upon consultation with the thesis advisor and program director, that complement the research activities.

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 MDR 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 M.S.M.D.R 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 MDR 8999 final grade.

Molecular Genetics and Genomics

Office: 3127 Scott Hall; 313-577-5323

Director: Lawrence I. Grossman
<http://www.genetics.wayne.edu>

Graduate programs in Molecular Genetics and Genomics 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; genetic and molecular basis of inter-individual and inter-population differences in complex phenotypes; 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 understanding human molecular genetic diseases.

- Molecular Genetics and Genomics (M.S.) (p. 249)
- Molecular Genetics and Genomics (Ph.D.) (p. 249)

Molecular Genetics and Genomics (M.S.)

Degree Programs: The Molecular Genetics and Genomics Program offers degrees leading to the Master of Science and Doctor of Philosophy. Plan A and Plan B curricula are available for the Master of Science degree. A joint MD-Ph.D. program is also available. Inquiries about these programs should be directed to the Graduate Officer, Molecular Genetics and Genomics Program.

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. Applicants must have:

1. a minimum grade point average of 3.0;
2. a background in mathematics, computer science and science;
3. three letters of recommendation sent directly to the Graduate Officer, Molecular Genetics and Genomics Program;
4. a personal statement; and
5. applicants should provide Graduate Record Examination scores, which must be provided.

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.

The Plan A MS degree requires completion of Master's Thesis Research and Direction (MGG 8999, Cr. 8), which includes original research and writing and defense of a thesis. The Plan B MS degree requires completion of Master's Essay in Molecular Genetics and Genomics (MGG 7999, Cr. 4) and the writing of an essay on a topic in the genetics and genomics field. Both Plan A and B require 34 credit hours to graduate. Students in the MS program are required to enroll in the following courses.

MGG 7010	Molecular Biology and Genetics	4
BMS 6010	Responsible Conduct in Biomedical Research	1
FPH 7015	Biostatistics I	4
MGG 7030	Functional Genomics and Systems Biology	2
MGG 7050	Bioinformatics: theory and practice	3
MGG 7091	Scientific Communication	2

Elective courses in Molecular Genetics and Genomics

MGG 7400	Molecular Biology of Cellular Signalling	2
MGG 7700	Hot Topics in Molecular Medicine	2
MGG 8680	Advanced Topics in Molecular Biology and Genetics	1-3
MGG 8770	Molecular Biology of Mitochondrial Disease	2
BMS 7100	Introduction to the Business of Biotechnology	3

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Molecular Genetics and Genomics (Ph.D.)

Degree Programs: The Molecular Genetics and Genomics Program offers degrees leading to the Master of Science and Doctor of Philosophy. A joint MD-Ph.D. program is also available. Inquiries about these programs should be directed to the Graduate Officer, Molecular Genetics and Genomics Program.

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. Applicants must have:

1. a minimum grade point average of 3.0;
2. a background in mathematics, computer science and science;
3. three letters of recommendation sent directly to the Graduate Officer, Molecular Genetics and Genomics Program;
4. a personal statement; and
5. applicants should provide Graduate Record Examination scores, which must be provided.

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.

Ph.D. students in the graduate program in molecular genetics and genomics enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. The IBS curriculum includes:

Required IBS courses

IBS 7015	Interdisciplinary Cell and Molecular Biology	7
BMS 6010	Responsible Conduct in Biomedical Research	1

Required courses in Molecular Genetics and Genomics

FPH 7015	Biostatistics I	4
MGG/IBS 7030	Functional Genomics and Systems Biology	2
MGG 7050	Bioinformatics: theory and practice	3
MGG 7091	Scientific Communication	2
MGG 7460	Research Training in Molecular Biology and Genetics	1-8
MGG 7600	Advanced Human Genetics	4

Elective courses in Molecular Genetics and Genomics

MGG 7400	Molecular Biology of Cellular Signalling	2
MGG 7700	Hot Topics in Molecular Medicine	2
MGG 8680	Advanced Topics in Molecular Biology and Genetics	1-3
MGG 8770	Molecular Biology of Mitochondrial Disease	2
BMS 7100	Introduction to the Business of Biotechnology	3

Students will select a variety of other courses in the program, should have a basic understanding of biochemistry, and are expected to become computer-literate. Advanced topics courses will be arranged to meet student needs. The program will enable the student to demonstrate a basic understanding of molecular genetics and genomics, 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 dissertation requirement is fulfilled registering for the courses MGG 9991, MGG 9992, MGG 9993, and MGG 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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Oncology

Cancer Biology Program

Office: KCI Prentis Building, 110 E. Warren Avenue, Room 2215;
313-578-4302

Program Director: Larry H. Matherly

Website: <http://cancerbiologyprogram.med.wayne.edu/>

Medical Physics Program

Office: 4201 St. Antoine Boulevard, 1D-UHC: 313-576-9624:

Program Director: Jay Burmeister

Website: <http://medicalphysics.med.wayne.edu/>

- Cancer Biology (M.S. and Ph.D.) (p. 250)
- Medical Physics (M.S.) (p. 252)
- Medical Physics (Ph.D.) (p. 252)
- Medical Physics (DMP) (p. 251)
- Medical Physics (Graduate Certificate) (p. 252)

Cancer Biology (M.S. and Ph.D.)

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. 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.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the graduate programs in the School of Medicine (p. 241). 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.

The Master of Science with a major in Cancer Biology is intended to award a degree to students who enter the Ph.D. Program, and 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 7015, Interdisciplinary Molecular and Cellular Biology (seven credits). It also includes selection by the student in conjunction with the Departmental Graduate Officer of courses within the IBS curriculum. In addition, students enroll in CB 7210, Fundamentals of Cancer Biology (3 credits), and CB 7990, Research Technologies 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 Courses and Research

BMS 6010	Responsible Conduct in Biomedical Research	1
CB 7130	Clinical Aspects of Cancer Biology	1
CB 7210	Fundamentals of Cancer Biology	3
CB 7700	Recent Developments in Cancer Biology (Journal Club (6 req.))	1
CB 7710	Individual Studies in Cancer Biology (rotation (3 req.))	1-2
CB 7890	Seminar in Cancer Biology (6 req.)	1
CB 7990	Research Technologies in Cancer Biology	1
IBS 7015	Interdisciplinary Cell and Molecular Biology	7
Select two Biomedical Electives: Cr. 2 (each)		4

Elective Courses

Select thirteen credits of the following:		13
CB 7220	Molecular Biology of Cancer Development	
CB 7240	Principles of Cancer Therapy	
CB 7300	Special Topics in Cancer Biology	
CB 7410	Cancer Immunology and Immunotherapy	
CB 7430	Cancer Epidemiology	
CB 7460	Mechanisms of Neoplasia: Alterations to Cellular Signaling	
CB 7600	Applied Cancer Biostatistics	

In addition to the required courses, a number of advanced cancer biology courses are offered from which students choose up to thirteen credits providing the sufficient total in required coursework. A number of other courses are available to allow students to specialize in a specific research discipline.

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 in the spring of the second year. Ph.D. candidacy is conferred upon successful completion of the oral comprehensive exam. During the summer of the first year, a monthlong clinical rotation is required (CB 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. Up to 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

An applicant for the Doctor of Philosophy degree must satisfactorily complete at least ninety credits, including thirty dissertation research credits in CB 9991, CB 9992, CB 9993, and CB 9994 during consecutive semesters. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees. For information regarding distribution of credits among major and minor requirements, consult the department.

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. 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. Typically, students complete up to three laboratory research rotations in the laboratories of prospective Ph.D. mentors during the first year of study (two in the fall and one in the winter semester), after which he/she chooses a dissertation mentor. Dissertation research mentors are selected based on students' research interests and the research rotation experiences. 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 training grants from the National Cancer Institute and the Susan G. Komen Foundation, faculty grants, and individual graduate fellowships.

Medical Physics (D.M.P.)

Medical Physics is an applied branch of physics concerned with the application of the concepts and methods of physics to the diagnosis and treatment of human disease. Medical Physicists participate in clinical service and consultation, research and development, and education in the areas of radiation oncology, diagnostic radiology, nuclear medicine, and health physics. The Department of Oncology offers courses of study leading to a Master of Science degree, a Doctor of Philosophy degree, a Professional Doctorate degree, or a Graduate Certificate in Medical Physics. Through courses, seminars, laboratories, research experiences, and clinical internships, the Medical Physics programs provide education and clinical training in the physics of Diagnostic Radiology, Nuclear Medicine, and Radiation Oncology.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the graduate programs in the School of Medicine (p. 241). 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 be required to complete their preparation in these areas before acceptance into a program. Applicants for the Graduate Certificate are required to have a Ph.D. in physics or related discipline prior to admission.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

The Professional Doctorate (DMP) program requires ninety credits beyond the baccalaureate including thirty credits of clinical residency in Radiation Oncology Physics. The thirty credit clinical requirement is fulfilled by registering for the courses ROC 9996, ROC 9997, ROC 9998, and ROC 9999 (Radiation Oncology Physics Clinical Rotation I, II, III, and IV, respectively), in consecutive academic year semesters. Course requirements are listed on the program's webpage (<http://medicalphysics.med.wayne.edu/doctorate-program.php>).

Assistantships and 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.

Medical Physics (Graduate Certificate)

Medical Physics is an applied branch of physics concerned with the application of the concepts and methods of physics to the diagnosis and treatment of human disease. Medical Physicists participate in clinical service and consultation, research and development, and education in the areas of radiation oncology, diagnostic radiology, nuclear medicine, and health physics. The Department of Oncology offers courses of study leading to a Master of Science degree, a Doctor of Philosophy degree, a Professional Doctorate degree, or a Graduate Certificate in Medical Physics. Through courses, seminars, laboratories, research experiences, and clinical internships, the Medical Physics programs provide education and clinical training in the physics of Diagnostic Radiology, Nuclear Medicine, and Radiation Oncology.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the graduate programs in the School of Medicine (p. 241). 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 be required to complete their preparation in these areas before acceptance into a program. Applicants for the Graduate Certificate are required to have a Ph.D. in physics or related discipline prior to admission.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

The Graduate Certificate requires a PhD in Physics or related science to be eligible for application and requires completion of 19 graduate credits of didactic coursework. Course requirements are listed on the program's webpage (<http://medicalphysics.med.wayne.edu/certificateprogram.php>).

Assistantships and 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.

Medical Physics (M.S.)

Medical Physics is an applied branch of physics concerned with the application of the concepts and methods of physics to the diagnosis and treatment of human disease. Medical Physicists participate in clinical service and consultation, research and development, and education in the areas of radiation oncology, diagnostic radiology, nuclear medicine, and health physics. The Department of Oncology offers courses of study leading to a Master of Science degree, a Doctor of Philosophy degree, a Professional Doctorate degree, or a Graduate Certificate in Medical Physics. Through courses, seminars, laboratories, research experiences, and clinical internships, the Medical Physics programs provide education and clinical training in the physics of Diagnostic Radiology, Nuclear Medicine, and Radiation Oncology.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the graduate programs in the School of Medicine (p. 241). 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 be required to complete their preparation in these areas before acceptance into a program. Applicants for the Graduate Certificate are required to have a Ph.D. in physics or related discipline prior to admission.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

The Master of Science with a major in Medical Physics is offered under Plan B as defined by the Graduate School under Master's Degrees. Course requirements are listed on the program's webpage (<http://bulletins.wayne.edu/graduate/school-medicine/programs/oncology/medical-physics-ms/%20http://medicalphysics.med.wayne.edu/mastersprogram.php>).

Assistantships and 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.

Medical Physics (Ph.D.)

Medical Physics is an applied branch of physics concerned with the application of the concepts and methods of physics to the diagnosis and treatment of human disease. Medical Physicists participate in clinical

service and consultation, research and development, and education in the areas of radiation oncology, diagnostic radiology, nuclear medicine, and health physics. The Department of Oncology offers courses of study leading to a Master of Science degree, a Doctor of Philosophy degree, a Professional Doctorate degree, or a Graduate Certificate in Medical Physics. Through courses, seminars, laboratories, research experiences, and clinical internships, the Medical Physics programs provide education and clinical training in the physics of Diagnostic Radiology, Nuclear Medicine, and Radiation Oncology.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and the graduate programs in the School of Medicine (p. 241). 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 be required to complete their preparation in these areas before acceptance into a program. Applicants for the Graduate Certificate are required to have a Ph.D. in physics or related discipline prior to admission.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

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 ROC 9991, ROC 9992, ROC 9993, and ROC 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. The dissertation must be based on original research under the direction of a graduate faculty advisor. Course requirements are listed on the program's webpage (<http://medicalphysics.med.wayne.edu/phdprogram.php>).

Assistantships and 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.

Pathology

Office: 9374 Scott Hall; 313-577-1102
Chairperson: Wael Sakr
<http://www.pathology.med.wayne.edu>

The department offers a Ph.D. in Pathology, with an emphasis on the molecular and cellular mechanisms of cancer and metabolic diseases. The goal of the program is to train students to be creative and successful scientists with a solid understanding of clinically relevant disease processes.

Ph.D. students in the program enroll in the School of Medicine's Interdisciplinary Biomedical Sciences (IBS) curriculum during their first year. Together with all the first year Ph.D. students at the medical school,

pathology students take IBS 7015 – Interdisciplinary Molecular and Cellular Biology (7 credits) during the first semester.

Students also choose elective courses from within the IBS 'systems' curriculum. These courses are tailored to specific biological systems.

Topics include the neurosciences, immunology, functional genomics, and cancer biology, among others. The choice of elective courses is made in together with the graduate officer and depends on the student's specific research interests.

Assistantships and Research, Pathology

All students admitted to the Pathology Graduate Program are awarded IBS graduate research assistantships.

- Pathology (Ph.D.) (p. 253)

Pathology (Ph.D.)

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. The Department admits students with superior records of academic achievement holding either a bachelor's or master's degree. Applicants must have an undergraduate g.p.a. above a 3.0 and international students must show proficiency in English with a minimum TOEFL score of 100. Although there are no specific requirements, significant consideration will also be given to an applicant's area of undergraduate study, the amount of research experience, and Graduate Record Examination (GRE) scores.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

The Doctor of Philosophy degree requires the completion of ninety credits, including at least thirty credits in research and dissertation. Students must follow the general doctoral degree requirements of the Graduate School (p. 35) and the School of Medicine (p. 241). The thirty credits of doctoral dissertation research are fulfilled by registering for PTH 9991, PTH 9992, PTH 9993, and PTH 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.

Pharmacology

Office: 6374 Scott Hall; 313-577-1580
Chairperson: Ray Mattingly
Associate Chairperson: Lawrence H. Lash
<http://www.pharmacology.med.wayne.edu/>

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.

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.

- Pharmacology (M.S. and Ph.D.) (p. 254)

Pharmacology (M.S. and Ph.D.)

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 Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. 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. Letters of inquiry should be directed to the Chair, Graduate Admissions Committee of the Department.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

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 7015	Interdisciplinary Cell and Molecular Biology	7
Selection by the student in conjunction with the departmental Graduate Officer of courses within the IBS Systems curriculum:		
IBS 7030	Functional Genomics and Systems Biology	2
IBS 7050	Biomedical Neurobiology	2
IBS 7090	Biomedical Immunology	2
IBS 7100	Biomedical Neuropharmacology	2
IBS 7110	Introduction to the Business of Biotechnology	3
IBS 7115	Special Topics in Biotechnology Commercialization	1
IBS 7130	Systems Neuroscience: Structure and Function of the Nervous System	2
IBS 7140	Foundations of Computational Biology	3
Total Credits		24

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, and renal pharmacology; neuropharmacology; cancer biology, including therapeutic approaches; 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, PHC 9992, PHC 9993, and PHC 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 emphasizes 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.

Molecular Neuropharmacology (Ph.D. Concentration)

The doctoral program in Pharmacology includes a concentration in molecular neuropharmacology. The focus of this concentration is to provide training in the molecular aspects of neuropharmacology, with an emphasis in molecular signaling and functional genomics. The Department recruits competitive, highly motivated graduate students for training in this unique and topical discipline.

Pharmacologists, by the very nature of their discipline, determine the response of individual cells, tissues and/or organisms to changes in the internal and external environment (including therapeutic agents) and are thus in increasing demand in the 'post-genomic' era. Neuropharmacologists are especially in demand, given both the need for current therapeutic drugs for CNS disorders and the rapid pace of discovery about basic neural mechanisms that shows much promise for therapeutic purposes. Biomedical scientists are now acutely aware that there is, in fact, not a single human genome but myriad genomes comprised of countless DNA deletions, insertions, and single nucleotide polymorphisms which change the substrate upon which environmental factors act and also modify human response to therapeutic drugs. Neuropharmacology, in the post-genome era, thus encompasses both the effects of drugs on neural cell function as well as the influence of genetic variations (from SNPs to gene knockouts) on drug responses at the cellular and organismic level. In this context, application of molecular and genetic tools provides critical insights into brain function and facilitate the development of novel therapeutics for brain dysfunction and tumors.

Physiology

Office: 5374 Scott Hall; 313-577-1520

Chairperson: Jian-Ping Jin

<http://physiology.med.wayne.edu>

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.

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. Financial support for the training program in Physiology is derived from University fellowships, faculty grants, individual graduate fellowships, and limited cardiovascular traineeships supported by a

training grant from the National Institute of Health-National Heart, Lung, and Blood Institute.

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.

- Physiology (M.S. and Ph.D.) (p. 255)

Physiology (M.S. and Ph.D.)

The Department of Physiology offers programs leading to the Master of Science and Doctor of Philosophy degrees. The degree of Master of Science is frequently the first step toward the Ph.D. Students planning a career in teaching or research in physiology are advised to complete the requirements for the Doctor of Philosophy degree. degree. A Reproductive Sciences Concentration is an option in the Doctor of Philosophy 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.

Admission Requirements

Admission to these programs is contingent upon admission to the Graduate School (p. 17) and the graduate programs of the School of Medicine (p. 241), respectively. 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.

Academic Scholarship

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

The overall requirements for the Master of Science (p. 34) and Doctor of Philosophy (p. 35) degrees are set forth in the Graduate School section of this bulletin. The master's degree is offered under Plan A only, 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 course requirements during their first two years of graduate study. The available IBS curriculum includes:

IBS Curriculum

IBS 7015	Interdisciplinary Cell and Molecular Biology	7
IBS 7030	Functional Genomics and Systems Biology	2
IBS 7050	Biomedical Neurobiology	2
IBS 7090	Biomedical Immunology	2
IBS 7100	Biomedical Neuropharmacology	2
IBS 7110	Introduction to the Business of Biotechnology	3
IBS 7115	Special Topics in Biotechnology Commercialization	1
IBS 7130	Systems Neuroscience: Structure and Function of the Nervous System	2
IBS 7140	Foundations of Computational Biology	3

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, PSL 9992, PSL 9993, and PSL 9994 (Doctoral Dissertation Research and Direction I, II, III,

and IV, respectively), in consecutive academic year semesters. (Spring/summer semester registration is optional).

Physiology and Reproductive Sciences (Ph.D. Concentration)

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.

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 Interdisciplinary Biomedical Sciences (IBS) 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.

Public Health Programs

The graduate-level public health programs at Wayne State University are offered by the Department of Family Medicine and Public Health Sciences (p. 237).

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.

- Master of Public Health (M.P.H.) (p. 256)
- Public Health Practice Graduate Certificate (p. 257)

Public Health (M.P.H.)

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 educational programs.

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.

Admission Requirements

Admission to the Master of Public Health (M.P.H.) Program is contingent upon admission to the Graduate School (p. 17) and admission to the School of Medicine (p. 241), respectively. Candidates must also complete undergraduate work in mathematics, natural science, and social science, and have experience in a health-related position. Applicants to the MPH biostatistics concentration must provide additional evidence of advanced mathematical coursework. Contact the M.P.H. Program (<http://www.familymedicine.med.wayne.edu>) for specific admissions requirements. Applications for the M.P.H. program are only considered for fall semester admission. All admissions materials must be received by March 1, for a student to be considered for the following fall semester.

Candidates for the MPH degree (all concentrations) must complete forty-two credits in course work. Required core courses (seventeen credits) for the M.P.H. degree include:

Required Courses

FPH 7010	Seminar in Public Health	1
FPH 7015	Biostatistics I	4
FPH 7100	Health Care Organization and Administration	3
FPH 7240	Epidemiology	3
FPH 7320	The Social Basis of Health and Health Care	3
FPH 7420	Principles of Environmental Health	3
Specialty Track		10-16
Elective Courses		0-6
Practicum		3
FPH 7440	Practicum in Public Health	
Final Project		3
FPH 8990	Master's Project	

Biostatistics Concentration

Required courses in the MPH Biostatistics concentration include:

FPH 7150	Probability and Inference	4
FPH 7160	Linear Regression and ANOVA (meet the Biostatistics core requirement)	3
FPH 7340	Generalized Linear Models and Categorical Data	4
FPH 7350	Statistical Programming for Public Health Practice	2-3
FPH 7460	Linear Mixed Models	3
FPH 7480	Design of Experiments and Clinical Trials	3

Academic 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 required 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 final project until the course deficiency is satisfied. If a student receives lower than a 'B' upon their second attempt, the student will be dismissed from the program. Students will be allowed to balance a 'B-minus' or lower grade in an elective course with an 'A-minus' or higher grade in another elective 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.

All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Public Health Practice (Graduate Certificate)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and School of Medicine (p. 241), respectively. Applications for the Graduate Certificate are considered on the same schedule as those for the M.P.H. Program. In addition, a background of course work or experience in the areas of mathematics, social science, and natural science is recommended. Students may enroll in the certificate program concurrently with a regular graduate degree program (M.S., M.A., or Ph.D.).

Candidates must complete a minimum of fifteen credits of course work.

Required Courses

FPH 7010	Seminar in Public Health	1
FPH 7015	Biostatistics I	4
FPH 7240	Epidemiology	3
FPH 7420	Principles of Environmental Health	3

Electives

Select minimum of four credits in the students areas of interest	4
Total Credits	15

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.

Academic Scholarship: All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

Translational Neuroscience (Ph.D.)

Program Director: Jeffrey A. Stanley, Ph.D.

Office: Tolan Park Medical Building, Suite 5-B,
3901 Chrysler Service Drive

The primary mission of the Translational Neuroscience Program (TNP) is to foster a new generation of neuroscientists trained in interdisciplinary science that focuses on improving the health and care of individuals

- 3 affected by psychiatric or neurological disorders, or injuries to the nervous system through an understanding of disease mechanisms. The didactic curriculum encompasses an integrated syllabus of basic science, pre-clinical research, and clinical neurobiology, including cutting-edge neuroimaging technologies. The strength of the program is its interdisciplinary training faculty, which includes leading experts in brain disorders, diseases and injuries, pre-clinical animal research, transgenic and knockout models, substance abuse, neuropharmacological treatments, brain network and computational modeling, and brain development and aging.

The TNP is housed in the Department of Psychiatry & Behavioral Neurosciences (p. 240), but is comprised of over 40 faculty members from 18 different departments spanning 4 colleges and schools within Wayne State University (WSU). The collaborative and interdisciplinary nature of the TNP program aligns well with the University's mission and strategic plan. Moreover, applications for graduate training in the neurosciences has quadrupled in the past 25 years making neuroscience research one of the most rapidly developing branches of medical research. The TNP program is fully committed in training basic and clinical neuroscientists who will be driving innovations that impact public health.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) and satisfaction of the admission requirements the School of Medicine (p. 241). Applicants must have an undergraduate degree including several courses in basic sciences such as biology and chemistry. Three letters of recommendation are required from individuals able to judge the applicant's scientific potential. A one-page statement of purpose for applying in the translational neuroscience program, a Curriculum Vitae (CV) that summarizes academic and research experiences, 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.

Students in the doctoral program are required to complete a minimum of ninety credits beyond the baccalaureate degree. Required courses include the following:

Required Courses

ANA 7130	Neuroanatomy	4
BMS 6010	Responsible Conduct in Biomedical Research	1
IBS 7015	Interdisciplinary Cell and Molecular Biology	7

IBS Courses

Select one of the following:	2
IBS 7030	Functional Genomics and Systems Biology
IBS 7050	Biomedical Neurobiology
IBS 7090	Biomedical Immunology
IBS 7100	Biomedical Neuropharmacology
IBS 7130	Systems Neuroscience: Structure and Function of the Nervous System

Statistics

Select one of the following:	3-4
FPH 7150	Probability and Inference
PSY 7150	Quantitative Methods in Psychology I
FPH 7210	Research Methods for Health Professionals

PSY 7160	Quantitative Methods in Psychology II	
PYC 7010	Neurobiology I	3
PYC 7140	Fundamentals of Neuroimaging	3
PYC 7150	Fundamentals of Neuropsychiatric Disorders	3
PYC 7890	Research Seminar (6-8 credits required)	1
PYC 7990	Directed Study (Max. 10)	1-6
PYC 7996	Research Problems (9 credits required)	3
PYC 7998	Clinical Neuroscience Rotation (Max. 9)	3,6
PYC 9990	Pre-Doctoral Candidacy Research (Max. 10)	1-8
PYC 9991	Doctoral Candidate Status I: Dissertation Research and Direction	7.5
PYC 9992	Doctoral Candidate Status II: Dissertation Research and Direction	7.5
PYC 9993	Doctoral Candidate Status III: Dissertation Research and Direction	7.5
PYC 9994	Doctoral Candidate Status IV: Dissertation Research and Direction	7.5
PYC 9995	Candidate Maintenance Status: Doctoral Dissertation Research and Direction	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)	12-24
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Students are required to seek advice from a graduate advisor on his/ her course selection. All course work must be completed in accordance with the regulations of the Graduate School (p. 12) and the School of Medicine (p. 241) governing graduate scholarship and degrees.

COLLEGE OF NURSING

Dean: Laurie Lauzon Clabo

The Wayne State University College of Nursing is regionally, nationally, and internationally recognized for educating graduate and undergraduate students as practitioners and scholars in the nursing profession. The College is committed to research and scholarly activity 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 the local and global 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, master's, and Doctor of Nursing Practice (DNP) programs of the College are accredited by the Commission on Collegiate Nursing Education (CCNE). The graduate nurse-midwife major is also accredited by the Accreditation Commission for Midwifery Education (ACME), (formerly ACNM Division of Accreditation).

Academic Regulations for the College of Nursing

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section of this bulletin. 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 (<http://classschedule.wayne.edu>). 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 College offers a blanket school malpractice policy with a minimum amount of liability insurance is \$1,000,000,000/\$5,000,000,000. Each student is expected to pay \$13.00 per year for the malpractice insurance policy coverage and present the registered nurse license to the Office of Student Affairs no later than August 15th of each year of clinical course work. Students in the Nurse Midwife major must secure individual malpractice insurance. Consult with the Office of Student Affairs and the Specialty Coordinator for information.

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 and present a standard immunization profile with a Tuberculin Skin (TB) test or quantiferon testing, proof of Rubella, Mumps, Rubeola, and Chicken Pox immunity, and the complete series of inoculations against Hepatitis B virus, and TDAP. A Urine Drug Screen Testing and a criminal background investigation are also required. 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.

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 beginning under Graduate Grades (p. 51).

1. A minimum overall grade point average of at least 3.0 is required for a student to be awarded a Ph.D. or D.N.P. 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 and will 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.

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.

Graduate Programs

- Nursing (M.S.N.) (p. 260)
- Nursing (D.N.P.) (p. 264)
- Nursing (Ph.D.) (p. 266)
- Nursing & Infant Mental Health (D.N.P. or Ph.D. dual-title) (p. 268)

Nursing (M.S.N.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 to request a certification application, or call: 215-222-8454. 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 specialty clinical major areas. Please refer to the major program and consult with a clinical specialty coordinator for specific requirements.

Application: All new applicants must submit an application for graduate admission (<http://www.gradadmissions.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 vary by semester (please refer to the College of Nursing website (<http://nursing.wayne.edu>) for more information).

Readmission

The master's student who withdraws from the program in good standing for one or more years should contact their academic advisor and the Office of Student Affairs one semester prior to the semester for which re-enrollment is desired. Following a review by the M.S.N. Committee and the Office for Academic and Clinical 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 M.S.N. Committee and the Associate Dean of Academic and Clinical Affairs.

R.N. – 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 the Graduate School (p. 17) and meet the requirements for admission. The Master's of Science in Nursing can be earned after an 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 (p. 17). 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 a master's degree.

Candidates for the Master of Science in Nursing (M.S.N.) must complete thirty-eight to fifty-three credits of study. All course work must be completed in accordance with the academic procedures of the College of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees. Credits must be normally distributed as follows:

Clinical or Practicum Nursing Sequence: Cr. 18-24

Supporting Courses: Cr. 0-11

Master's Core and Research Courses: Cr. 13

All M.S.N. programs require the election of a particular major. Majors currently available to satisfy these requirements are detailed below. Supporting courses or cognates, which are clinically specific, are predetermined by selection of the clinical (or non-clinical) nursing sequence and will be found as part of the major areas of study. 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 in practice. To develop these skills, the student completes courses in evidence-based nursing and/or biostatistics and epidemiology.

Plan of Work: With the approval of the advisor, the student and advisor develop and file 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 (and non-clinical) nursing sequence and intended degree. It is the responsibility of the student to meet with his/her advisor 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-Gerontology Nurse Practitioner Acute Care (p. 261) (admissions moratorium in effect)
- Adult-Gerontology Nurse Practitioner Primary Care (p. 262) (admissions moratorium in effect)
- Advanced Public Health Nursing (p. 262)
- Neonatal Nurse Practitioner (p. 262)
- Nurse-Midwifery (p. 263)
- Pediatric Nurse Practitioner-Acute Care (p. 263)
- Pediatric Nurse Practitioner-Primary Care (p. 263)
- Psychiatric Mental Health Nurse Practitioner (p. 264)
- Women's Health Nurse Practitioner (p. 264) (admissions moratorium in effect)

M.S.N. Major: Adult-Gerontology Nurse Practitioner Acute Care

(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-Gerontology Nurse Practitioner Acute Care (AGNP-AC) 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.

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7130	APN: Management of Oncology, Mental Health, and Lifestyle Change	6
NUR 7140	APN: Management of Cardiopulmonary and Renal Problems	6
NUR 7370	APN: Management of Neurological, Endocrine, and Musculoskeletal Problems	6

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7555	Pharmacotherapeutics for Advanced Practice	3
Total Credits		42

M.S.N. Major: Adult-Gerontology Nurse Practitioner Primary Care

(Minimum of forty-eight credits required)

An admissions moratorium is currently in effect for this program.

The Master of Science in Nursing degree with a major in Adult-Gerontology Nurse Practitioner Primary Care (AGNP-PC) prepares the nurse for advanced practice in a primary care setting. 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).

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7155	Primary Prevention Strategies	8
NUR 7165	Clinical Decision Making in Adult-Gerontology	8
NUR 7175	Adult-Gerontology Primary Care Management and Evaluation	8

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7555	Pharmacotherapeutics for Advanced Practice	3

Total Credits 48

M.S.N. Major: Advanced Public Health Nursing

(Minimum of thirty-eight credits required)

The Master of Science in Nursing degree in Advanced Public Health Nursing (APHN) prepares nurses for advanced care of populations and communities. The APHN promotes 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. The goal of this program is to prepare nurses who meet the APHN core competencies in education, practice, leadership, and research. The program sees the APHN as the voice for public health nursing. Graduates are eligible to seek American Nurses Credentialing Center (ANCC) Advanced Public

Health Nursing board certification through portfolio assessment. Certification through portfolio is a new assessment methodology; No exam is required.

Required Courses

Master's Core Courses

NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3
NUR 7222	Leadership in Health Policy, Ethics and Change	3

Practicum Course Sequence

NUR 7025	Community Based Participatory Research	3
NUR 7040	Comprehensive Community Assessment	5
NUR 7055	Health Promotion and Prevention with Diverse Populations	5
NUR 7065	Program Planning, Quality Improvement and Evaluation Residency	5

Supporting Courses

FPH 7015	Biostatistics I	4
FPH 7240	Epidemiology	3

Total Credits 38

M.S.N. Major: Neonatal Nurse Practitioner

(Minimum of forty-seven credits required)

The Master of Science in Nursing degree with a major in Neonatal Nurse Practitioner (NNP) 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. Two years of Level III NICU experience is required prior to start of clinical courses. Upon program completion, students are eligible to take a certification examination through the National Certification Corporation (NCC).

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7225	Pathophysiology, Clinical Care and Management I	8
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7200	Advanced Neonatal Pharmacology	3

M.S.N. Major: Nurse-Midwifery

(Minimum of forty-eight credits required)

The Master of Science in Nursing degree with a major in Nurse-Midwifery (NM) 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-midwifery students take the Accreditation Commission for Midwifery Education (ACME) (formerly ACNM Division of Accreditation) examination.

Required Courses

Master's Core Courses

NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3
NUR 7222	Leadership in Health Policy, Ethics and Change	3

Clinical Course Sequence

NUR 7225	Pathophysiology, Clinical Care and Management I	8
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7555	Pharmacotherapeutics for Advanced Practice	3

M.S.N. Major: Pediatric Nurse Practitioner-Acute Care

(Minimum of forty-eight credits required)

The Master of Science in Nursing with a Pediatric Nurse Practitioner-Acute Care specialty 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 PNP-AC 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. Attention is given to health promotion, prevention of disease and disability, disease process, treatment, clinical management, 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).

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7225	Pathophysiology, Clinical Care and Management I	8
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7207	Advanced Pediatric Pharmacology	3

M.S.N. Major: Pediatric Nurse Practitioner-Primary Care

(Minimum of forty-eight credits required)

The Master of Science in Nursing with a Pediatric Nurse Practitioner-Primary Care specialty 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 PNP-PC program are prepared to provide pediatric primary healthcare 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. Attention is given to health promotion, prevention of disease and disability, treatment, clinical management, 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).

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7225	Pathophysiology, Clinical Care and Management I	8
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
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NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7207	Advanced Pediatric Pharmacology	3
Total Credits		48

M.S.N. Major: Psychiatric Mental Health Nurse Practitioner

(Minimum of fifty-three credits required)

All students in the Psychiatric and Mental Health Nurse Practitioner (PMHNP) major gain knowledge in biological, neurological, pharmacological, and physiological domains that prepare them to conduct comprehensive assessments and utilize a range of psychobiological interventions. The PMHNP 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. Upon program completion, graduates are eligible to take the American Nurse Credentialing Center (ANCC) Psychiatric-Mental Health Nurse Practitioner certification exam.

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7840	Advanced Practice Nursing with Individuals/Communities	6
NUR 7860	Advanced Practice Nursing with Families	6
NUR 7855	Advanced Practice Nursing with Groups	6

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7555	Pharmacotherapeutics for Advanced Practice	3
NUR 7605	Psychopharmacology for Advanced Practice Nursing	5
NUR 7865	Foundations of Complementary and Alternative Medicine (CAM)	3
SW 6540	Effects of Drugs and Alcohol on Physical and Social Functioning	3

Total Credits 53

M.S.N. Major: Women's Health Nurse Practitioner

(Minimum of forty-eight credits required)

The Master of Science in Nursing degree with a major in Women's Health Nurse Practitioner (WHNP) prepares nurses for advanced practice in the care of women. The WHNP 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).

Required Courses

Master's Core Courses

NUR 6510	Health Economics, Policy, and Professional Issues for APNs	3
NUR 7015	Research for Evidence-Based Nursing I	4
NUR 7018	Research for Evidence-Based Nursing II	3
NUR 7105	Theoretical Foundations for Nursing	3

Clinical Course Sequence

NUR 7225	Pathophysiology, Clinical Care and Management I	8
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8

Supporting Courses

NUR 7030	Advanced Nursing Assessment	4
NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	4
NUR 7555	Pharmacotherapeutics for Advanced Practice	3

Total Credits 48

Nursing (D.N.P.)

The 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.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 (it is preferred that one reference from a doctoral-prepared individual), a professional goals statement, and a resume 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.

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). 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.

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). 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 January 31st. Informational meetings are held monthly and applicants are encouraged to attend before completing the application. The schedule is listed on the College website (<http://www.nursing.wayne.edu>) under the Programs tab, D.N.P., then Information Meetings: .

Admission decisions are based upon all materials submitted and reflect careful consideration of the applicant's professional goals, clinical inquiry interests, interview and the resources of the College of Nursing. Although even if 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.

All course work must be completed in accordance with the academic procedures of the College of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

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 Director of the D.N.P. Program. 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 extensions will not be considered in the absence of substantial progress during the previous year.

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. Students in path I and path III have several clinical specialty options. The options are described below under each of these paths.

Clinical Practicum: Requirement of one year of residence equaling six graduate credits in course work, not including the Doctor of Nursing

Practice project, over two successive semesters. (Spring/Summer semester may be excluded.)

The total D.N.P. program must include thirty credits, excluding the Doctor of Nursing Practice Project, in courses open only to graduate students (7000 level or above).

Path I: Post-B.S.N. Clinical Leading to the A.P.R.N. Specialty and the D.N.P. (Total Credits: 80-82)

Focus: Clinical specialty certification, Clinical Inquiry, leadership development, and translation of research into practice (Michigan RN license required)

Nursing Transfer Courses Advisor approved - 5 credits		
Theory		
NUR 8620	Foundations of Nursing as a Discipline	3
NUR 8625	Evidence Based Nursing Practice: Theoretical and Methodological Issues	3
Domain of Knowledge		
NUR 8210	Health Determinants & Disparities	3
NUR 8615	Informatics Innovations in Nursing	3
NUR 8630	Conceptual Methodologies in Health Policy Leadership and Ethics	3
NUR 8650	Advanced Professional Leadership	3
Elective Courses		
Select 6 credits supporting domain of knowledge of the following:		6
NUR 7710	Theoretical Perspectives of Teaching in Nursing	
NUR 7720	Evaluation and Testing in Nursing Education	
NUR 8065	Health Economics and Policy Evaluation of Nursing Care for Vulnerable Populations	
NUR 8635	Clinical Practice Outcomes: Evaluation and Benchmarking Methodologies	
NUR 8640	Health Information Technology	
Research and Statistics		
NUR 7000	Statistics in Nursing	3-4
or PSY 5100	Applied Statistics in Psychology	
NUR 8895	Population Health for Nursing	3
NUR 8604	Health Analytics and Data Management	4
D.N.P. Project		
NUR 9500	DNP Project Practicum I	2
NUR 9505	DNP Project Practicum II	2
NUR 9510	DNP Project Practicum III	2
NUR 9520	Clinical Inquiry Project	6
Advanced Practice Nursing Specialty Courses		
(Minimum credits 34-35, total credits dependant on major)		
NUR 7030	Advanced Nursing Assessment	4
NUR 7203	Advanced Neonatal Physiology and Pathophysiology	3-4
or NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	
Select one of the following:		3
NUR 7200	Advanced Neonatal Pharmacology	
NUR 7207	Advanced Pediatric Pharmacology	
NUR 7555	Pharmacotherapeutics for Advanced Practice	
Select a minimum of 3 APN Specialty Clinical Didactic Courses:		
NUR 8670	APN Specialty I: Foundations	3-4
NUR 8680	APN Specialty II: Intermediate	3-4

NUR 8690	APN Specialty III: Advanced	2-4
Select a minimum of 3 Clinical LAB Courses:		
NUR 8675	APN Specialty Clinical I: Foundations	4-5
NUR 8685	APN Specialty Clinical II: Intermediate	4-5
NUR 8695	APN Specialty Clinical III: Advanced	5-6
Total Credits		77-86

Path II: Post-Master's with Clinical Specialty Leading to the D.N.P. (Total Credits: 46-47)

Focus: Clinical Inquiry, leadership development, and translation of research into practice (Specialty Certification required)

Nursing Transfer Courses Advisor approved - 5 credits

Theory

NUR 8620	Foundations of Nursing as a Discipline	3
NUR 8625	Evidence Based Nursing Practice: Theoretical and Methodological Issues	3

Domain of Knowledge

NUR 8210	Health Determinants & Disparities	3
NUR 8615	Informatics Innovations in Nursing	3
NUR 8630	Conceptual Methodologies in Health Policy Leadership and Ethics	3
NUR 8650	Advanced Professional Leadership	3

Elective Courses

Select 6 credits supporting domain of knowledge of the following: 6

NUR 7710	Theoretical Perspectives of Teaching in Nursing	
NUR 7720	Evaluation and Testing in Nursing Education	
NUR 8065	Health Economics and Policy Evaluation of Nursing Care for Vulnerable Populations	
NUR 8635	Clinical Practice Outcomes: Evaluation and Benchmarking Methodologies	
NUR 8640	Health Information Technology	

Research and Statistics

NUR 7000	Statistics in Nursing	3-4
or PSY 5100	Applied Statistics in Psychology	
NUR 8895	Population Health for Nursing	3
NUR 8604	Health Analytics and Data Management	4

D.N.P. Project

NUR 9500	DNP Project Practicum I	2
NUR 9505	DNP Project Practicum II	2
NUR 9510	DNP Project Practicum III	2
NUR 9520	Clinical Inquiry Project	6

Advanced Practice Nursing Specialty Courses

None required for this option since already certified

Total Credits 46-47

Path III: Post-M.S.N. Clinical Leading to A.P.R.N. Specialty and the D.N.P. (Total Credits: 80-82)

Focus: Clinical specialty certification, Clinical Inquiry, leadership development, and translation of research into practice (Michigan RN license required)

Nursing Transfer Courses Advisor approved - 5 credits

Theory

NUR 8620	Foundations of Nursing as a Discipline	3
NUR 8625	Evidence Based Nursing Practice: Theoretical and Methodological Issues	3

Domain of Knowledge

NUR 8210	Health Determinants & Disparities	3
NUR 8615	Informatics Innovations in Nursing	3
NUR 8630	Conceptual Methodologies in Health Policy Leadership and Ethics	3
NUR 8650	Advanced Professional Leadership	3

Elective Courses

Select 6 credits supporting domain of knowledge of the following: 6

NUR 7710	Theoretical Perspectives of Teaching in Nursing	
NUR 7720	Evaluation and Testing in Nursing Education	
NUR 8635	Clinical Practice Outcomes: Evaluation and Benchmarking Methodologies	
NUR 8640	Health Information Technology	

Research and Statistics

NUR 7000	Statistics in Nursing	3-4
or PSY 5100	Applied Statistics in Psychology	
NUR 8895	Population Health for Nursing	3
NUR 8604	Health Analytics and Data Management	4

D.N.P. Project

NUR 9500	DNP Project Practicum I	2
NUR 9505	DNP Project Practicum II	2
NUR 9510	DNP Project Practicum III	2
NUR 9520	Clinical Inquiry Project	6

Advanced Practice Nursing Specialty Courses

(Minimum credits 34-35, total credits dependant on major)

NUR 7030	Advanced Nursing Assessment	4
NUR 7203	Advanced Neonatal Physiology and Pathophysiology	3-4
or NUR 7444	Advanced Physiology and Pathophysiology Across the Lifespan for APRNs	

Select one of the following: 3

NUR 7200	Advanced Neonatal Pharmacology	
NUR 7207	Advanced Pediatric Pharmacology	
NUR 7555	Pharmacotherapeutics for Advanced Practice	

Select a minimum of 3 APN Specialty Clinical Didactic Courses:

NUR 8670	APN Specialty I: Foundations	3-4
NUR 8680	APN Specialty II: Intermediate	3-4
NUR 8690	APN Specialty III: Advanced	2-4

Select a minimum of 3 Clinical LAB Courses:

NUR 8675	APN Specialty Clinical I: Foundations	4-5
NUR 8685	APN Specialty Clinical II: Intermediate	4-5
NUR 8695	APN Specialty Clinical III: Advanced	5-6

Total Credits 77-86

Nursing (Ph.D.)

Established in 1975, the Doctor of Philosophy (Ph.D.) in Nursing program is designed to prepare researchers and scholars to provide leadership to the profession and discipline of nursing. The program emphasizes the development of the student's capacity to make significant, original contributions to nursing knowledge. The understanding that nursing provides services that help individuals, families, and communities achieve health drives the Ph.D. program. These services are based on systematic knowledge about human health and human-environment

relationships. Particular attention is given to the kinds of human-environment relationships that are optimal for health. This systematic knowledge base is the foundation of nursing science.

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 Program, Ph.D., and Information Meetings.

1. **Admission** to this program is contingent upon admission to the Graduate School (p. 17). In addition, applicants must comply with the following:
2. **Application:** All new applicants must submit two application forms:
 - a. the University or International Application for Doctoral Admission and
 - b. the College of Nursing Application for Admission to the Doctor of Philosophy Program in Nursing.

Applications are available through the Graduate School online (<http://wayne.edu/admissions/graduate>) and at the College Doctoral Programs website (<http://nursing.wayne.edu/phd>). Admission decisions are based upon all materials submitted and a personal interview with potential faculty mentors. Decisions 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 area of research interest. 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 3.0 g.p.a. in upper division undergraduate course work (the last sixty credits).
5. **Graduate Record Examination (GRE):** The GRE is not required.
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. **Interviews:** Applicant interviews are required and will be scheduled after receipt of the College of Nursing application, goals statement and curriculum vita.

Admission Deadline: January 31st.

Readmission: Students who are inactive and desire readmission must submit a written request to the Director of the Ph.D. 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 Ph.D. Program Committee and the Graduate School.

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, NUR 9992, NUR 9993, and NUR 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters. Students are also expected to attend a minimum of two semesters of dissertation colloquia during the dissertation 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 sections beginning under Graduate Academic Regulations (p. 12) and Academic Regulations for the College of Nursing (p. 259), 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 at least 50 credits of graduate level courses, including domain and methods as stated on the student's approved Plan of Work.

Candidacy: The final Qualifying examination must be passed and the Dissertation Committee approved to establish candidacy. Students must complete both semesters of the Research Residency before defending their proposal and complete the Teaching Residency prior to graduation.

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.

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, 313-577-4134.

Ph.D. Curricular Options

The faculty of the College of Nursing has developed two 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: one path 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.

Students are advised to keep themselves informed of these requirements so that scheduling their courses will be consistent with prerequisite sequencing.

Post-M.S.N., Leading to the Ph.D.

Focus: Research and Nursing Knowledge

Nursing Transfer Courses Advisor Approved 24

Theory

NUR 8020	Theoretically-Based Nursing Inquiry ¹	3
NUR 8012	Philosophical Basis of Nursing	3

Domain of Knowledge

NUR 8210	Health Determinants & Disparities	3
NUR 8011	Scientific Writing in Nursing	1
NUR 8014	Health Interventions	3

Concentration Courses

Concentration courses are taken to support the student's research interests. Nine credits of concentration must be taken outside of the College of Nursing. 9

Research and Statistics Courses

NUR 8040	Quantitative Research Methods	3
NUR 8060	Qualitative Research Methods	3
NUR 8610	Statistical Analysis I	3
NUR 8612	Statistical Analysis II	3
	Advanced Research Methods Elect. (from Nursing or another discipline)	3

Dissertation Research and Direction

NUR 9991	Doctoral Candidate Status I: Dissertation Research and Direction	7.5
NUR 9992	Doctoral Candidate Status II: Dissertation Research and Direction	7.5
NUR 9993	Doctoral Candidate Status III: Dissertation Research and Direction	7.5
NUR 9994	Doctoral Candidate Status IV: Dissertation Research and Direction	7.5

Total Credits 91

¹ These courses have prerequisites that are listed under the Courses (p.) section and in the Class Schedule (<http://www.classschedule.wayne.edu>).

Post-B.S.N., Leading to the Ph.D.

Focus: Research and Nursing Knowledge

Theory

NUR 7105	Theoretical Foundations for Nursing	3
NUR 8020	Theoretically-Based Nursing Inquiry ¹	3
NUR 8012	Philosophical Basis of Nursing	3

Domain of Knowledge

NUR 8210	Health Determinants & Disparities	3
NUR 8011	Scientific Writing in Nursing	1
NUR 8014	Health Interventions	3
NUR 8630	Conceptual Methodologies in Health Policy Leadership and Ethics	3

Research and Statistics Courses

NUR 7000	Statistics in Nursing	3
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NUR 7015	Research for Evidence-Based Nursing I	4
NUR 8040	Quantitative Research Methods	3
NUR 8060	Qualitative Research Methods	3
NUR 8610	Statistical Analysis I	3
NUR 8612	Statistical Analysis II	3
	Advanced Research Methods Elect. (from Nursing or another discipline)	3
NUR 8990	Directed Study (Part 1)	3
NUR 8990	Directed Study (Part 2)	3

Concentration Courses

Concentration courses are taken to support the student's research interests. Nine credits of concentration must be taken outside of the College of Nursing. 15

Dissertation Research and Direction

NUR 9991	Doctoral Candidate Status I: Dissertation Research and Direction	7.5
NUR 9992	Doctoral Candidate Status II: Dissertation Research and Direction	7.5
NUR 9993	Doctoral Candidate Status III: Dissertation Research and Direction	7.5
NUR 9994	Doctoral Candidate Status IV: Dissertation Research and Direction	7.5

Total Credits 92

¹ These courses have prerequisites that are listed under the Courses (p.) section and in the Class Schedule (<http://www.classschedule.wayne.edu>).

The total Ph.D. program must include thirty credits, excluding dissertation direction, in courses open only to graduate students (7000 level or above).

Nursing & Infant Mental Health (D.N.P. or Ph.D. Dual-Title)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

In addition to D.N.P. (p. 264) or Ph.D. requirements (p. 266), 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. All course work must be completed in accordance with

the academic procedures of the College of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

ELE 7025		2
NUR 7880	Infant/Family Mental Health Assessment	2
SW 7010	Infant Mental Health Practice	1-2
PSY 7425	Psychology of Infant Behavior and Development	3
PSY 7430	Developmental Assessment of Infants and Toddlers	3
Total Credits		11-12

D.N.P. students must also complete a qualifying examination and a Clinical Inquiry Project related to infant mental health.

Ph.D. students must also complete a qualifying examination and a Doctoral Dissertation related to infant mental health.

Nursing Graduate Certificates

- Adult Gerontology Nurse Practitioner Acute Care (Graduate Certificate) (p. 269)
- Complementary Therapies in Healthcare (Graduate Certificate) (p. 269) (admissions moratorium in effect)
- Nurse-Midwifery (Graduate Certificate) (p. 270)
- Nursing Education (Graduate Certificate) (p. 270)
- Pediatric Nurse Practitioner Acute Care (Graduate Certificate) (p. 270)
- Pediatric Nurse Practitioner Primary Care (Graduate Certificate) (p. 271)
- Psychiatric Mental Health Nurse Practitioner (Graduate Certificate) (p. 271) (admissions moratorium in effect)
- Transcultural Nursing (Graduate Certificate) (p. 271) (admissions moratorium in effect)
- Women's Health Nurse Practitioner (Graduate Certificate) (p. 272) (admissions moratorium in effect)

Adult Gerontology Nurse Practitioner Acute Care (Graduate Certificate)

The Graduate Certificate Program will allow advanced practice nurses, who have graduated with a clinical MSN, MS or DNP to acquire the nationally-specified adult acute and critical care content and clinical skills needed to take the national adult acute care certification exam and then to function competently within the acute care scope of practice. It will require satisfactory completion of 18 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. Courses focus on integrating advanced health assessment, pathophysiology, and acute clinical care and management. 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 Adult Nurse Practitioner-Acute Care national certification exam.

Admission Requirements

Admission to this program is contingent upon admission to the College of Nursing and upon admission to the Wayne State University Graduate

School and the availability of the College of Nursing resources. An applicant for admission to the graduate certificate program must have a MS in nursing, MSN, or a DNP from a nationally accredited institution. All applicants must be eligible for licensure as a registered nurse in the State of Michigan and provide a statement of purpose for seeking the ACNP certificate, and professional competence as documented by three letters of reference. In addition, the applicant must have completed the following graduate level courses: pathophysiology, pharmacology and physical assessment.

This certificate requires courses which must be taken in sequence over one calendar year with no transfer credit accepted. A grade point average of 3.0 must be maintained. All course work must be completed in accordance with the academic procedures of the College of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Required Courses

NUR 7370	APN: Management of Neurological, Endocrine, and Musculoskeletal Problems	6
NUR 7140	APN: Management of Cardiopulmonary and Renal Problems	6
NUR 7130	APN: Management of Oncology, Mental Health, and Lifestyle Change	6
Total Credits		18

Complementary Therapies in Healthcare (Graduate Certificate)

An admissions moratorium is currently in effect for this program.

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 and students.

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 Requirements

Admission to this program is contingent upon admission to the Graduate School. (p. 17) Additional requirements include: graduation from 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.

This certificate requires courses which must be taken in sequence over one calendar year with no transfer credit accepted. A grade point average of 3.0 must be maintained. All course work must be completed in accordance with the academic procedures of the College of

Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Required Courses

NUR 7865	Foundations of Complementary and Alternative Medicine (CAM)	3
NUR 7870	Complementary Therapy Research: Understanding the Evidence	4
NUR 7875	Complementary Alternative Medicine Therapies: Clinical Intervention II	5

Total Credits		12
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Nurse-Midwifery (Graduate Certificate)

This Graduate Certificate program is designed to prepare advanced practice nurses to practice as nurse-midwives (NM) 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).

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

This certificate requires sixteen credits which must be earned within three years with no transfer credit 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 under Graduate Academic Regulations (p. 12) and Academic Regulations for the College of Nursing (p. 259), respectively. Please contact Department for requirements.

Required Courses

(Nurse-Midwifery section for the following two courses)

NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8

Total Credits		16
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Nursing Education (Graduate Certificate)

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17) 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.

This Certificate requires twelve credits which must be earned within three years with no transfer credit 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 of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Required Courses

Graduate-level Nursing or Education course approved by advisor (may be applied toward Master's degree if WSU student)		3
NUR 7710	Theoretical Perspectives of Teaching in Nursing	3
NUR 7720	Evaluation and Testing in Nursing Education	3
NUR 7730	Practice Teaching in Nursing	3

Total Credits		12
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Pediatric Nurse Practitioner Acute Care (Graduate Certificate)

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 from the Pediatric Nursing Certifying Board (PNCB).

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

This certificate requires a minimum of eighteen credits which must be earned within three years with no transfer credit 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 of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Course Requirements

NUR 7225	Pathophysiology, Clinical Care and Management I	2
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8
Total Credits		18

Pediatric Nurse Practitioner Primary Care (Graduate Certificate)

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 from the Pediatric Nursing Certifying Board (PNCB).

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

This certificate requires a minimum of eighteen credits which must be earned within three years with no transfer credit 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 of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Course Requirements

NUR 7225	Pathophysiology, Clinical Care and Management I	2
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8
Total Credits		18

Psychiatric Mental Health Nurse Practitioner (Graduate Certificate)

An admissions moratorium is currently in effect for this program.

This Graduate Certificate Program is designed to prepare nurses to assume primary care roles as a Psychiatric Mental Health Nurse Practitioner. The certificate provides nurses with essential knowledge and skills to assume psychotherapy, consultation, and liaison roles. Courses focus on systematic pathophysiology, pharmacotherapeutics interventions, advanced health assessment, and health policy and issues for advanced practice nurses.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

This certificate requires sixteen credits which must be earned within three years with no transfer credit 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 of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Transcultural Nursing (Graduate Certificate)

An admissions moratorium is currently in effect for this program.

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 Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

An admissions moratorium is currently in effect for this program.

This certificate requires a minimum of twelve credits which must be earned within three years with no transfer credit 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 of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Women's Health Nurse Practitioner (Graduate Certificate)

An admissions moratorium is currently in effect for this program.

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 from the National Certification Corporation (NCC).

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

An admissions moratorium is currently in effect for this program.

This certificate requires a minimum of eighteen credits which must be earned within three years with no transfer credit 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 of Nursing (p. 259) and the Graduate School (p. 12) governing graduate scholarship and degrees.

Course Requirements

NUR 7225	Pathophysiology, Clinical Care and Management I	2
NUR 7226	Pathophysiology, Clinical Care and Management II	8
NUR 7227	Pathophysiology, Clinical Care and Management III	8
Total Credits		18

College of Nursing Faculty

ARTINIAN, NANCY: Ph.D., M.S.N., Wayne State University; B.S.N., Mercy College of Detroit; Professor Emerita

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BENKERT, RAMONA: Ph.D., University of Michigan; M.S.N., Wayne State University; B.S.N., Mercy College of Detroit; Associate Professor

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PARKER, JESSICA: M.S.N., Wayne State University; B.S.N., University of Michigan; Clinical Instructor

PASTOR, JESSICA: M.S.N., B.S., Wayne State University; B.S.N., University of Detroit Mercy; Clinical Instructor

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SCHUTTE, DEBRA: Ph.D., M.S.N., B.S.N., The University of Iowa; Associate Professor

STANLEY, CHANTA: D.N.P., B.S.N, Wayne State University; Clinical Instructor

TEMPLIN, THOMAS: Ph.D., M.A., B.A., Wayne State University; Professor (Research)

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VISGER, JOAN: M.S.N., University of Phoenix; B.S., Wayne State University; Clinical Assistant Professor

WALKER, DEBORAH: Ph.D., University of California, Los Angeles; M.S.N., University of Minnesota; B.S.N., Sonoma State University; Associate Professor

WALKER, TARA: D.N.P, Wayne State University; B.S.N., University of Rochester; Clinical Instructor

WASHINGTON, OLIVIA: Ph.D., Wayne State University; M.S.N., B.S.N., State University of New York at Buffalo; Associate Professor Emeritus

WIERS, SUSAN: D.N.P, M.S.N., B.S.N, Michigan State University; Clinical Assistant Professor

WILLIAMS, BARBARA: M.A., Central Michigan University; B.S.N., Mercy College of Detroit; Clinical Instructor

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EUGENE APPLEBAUM COLLEGE OF PHARMACY AND HEALTH SCIENCES

Interim Dean: Deepak Bhalla

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 Forensic Investigation
- **Health Care Sciences:** comprised of Occupational Therapy, Nurse Anesthesia, Physical Therapy, Physician Assistant Studies, Radiation Therapy Technology, Radiologic Technology, and Radiologist Assistant Studies
- **Pharmaceutical Sciences**
- **Pharmacy Practice**

The College offers seventeen 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.

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 facility provides notable clinical and research settings where students participate as part of their professional development.

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.

Accreditation

The Higher Learning Commission 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/>)

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 THERAPY:

Accreditation Council for Occupational Therapy Education (ACOTE), 4720 Montgomery Lane, Suite 200, Bethesda MD 20814-3449 (www.acoteonline.org (<http://www.acoteonline.org>))

PHARMACY:

The Accreditation Council for Pharmacy Education (ACPE), originally founded as the American Council on Pharmaceutical Education: 135 S. LaSalle Street, Suite 4100 Chicago, Illinois 60603-4810; Phone: 312-664-3575; FAX: 312-664-4652; website: <http://www.acpeaccredit.org>

PHYSICAL THERAPY:

Commission on Accreditation in Physical Therapy Education (CAPTE), 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/>

RADIOLOGIC TECHNOLOGY:

Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Chicago IL 60606-3182; telephone: 312-704-5300; Fax: 312-704-5304; website: <http://www.jrcert.org>

Academic Regulations

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section of this bulletin. The following additions and amendments pertain to the College of Pharmacy and Health Sciences.

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 made.

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 Academic procedures to withdraw from all courses enrolled in for that term as outlined by instructions found online (<http://reg.wayne.edu/students/information.php>).

A leave of absence must be requested no later than the end of the tenth 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, program director, department chair and/or the Assistant Dean for Student 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. Please refer to the specific program/department Student Handbook for information regarding minimum grade requirements.

Grade Appeals

Official Policies and Procedures
College Policy No. 89.01 FINAL COURSE GRADE APPEALS
Approved 4/30/2013, Correction 3/26/15, UPDATED August 14, 2015,
Adopted September 16, 2015
REPLACES AND SUPERSEDES ALL PRIOR VERSIONS OF FINAL COURSE GRADE APPEALS. This policy is effective immediately for grades received Fall 2015 and forward.

The following is the policy implemented for Final Course Grade Appeals in the Eugene Applebaum College of Pharmacy and Health Sciences. At the beginning of each term, the instructor is to inform students in writing of the criteria used in arriving at grades for the class including the relative importance of prepared papers, quizzes and examinations, class participation and attendance. Where student performance in other practical and structured activities is relevant in evaluating professional competency, criteria used in such evaluations should be stated. Written materials should be graded in a timely manner and such materials, together with comments and an explanation of grading criteria, are to be made available to students. Students should be encouraged to discuss any class related problems with the instructor.

Instructors are expected to evaluate student work according to sound academic standards. Equal expectations should be required of all students in a class (although more work is expected from graduate

students than from undergraduates) and grades should be assigned without departing from announced procedures.

It is the instructor's prerogative to assign grades in accordance with his or her academic and professional judgment and the student assumes the burden of proof in the appeals process.

Grounds for appeals are:

1. the application of non-academic criteria in the grading process, as listed in the university's non-discrimination/affirmative action statute: race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability, or veteran status;
2. sexual harassment or discrimination; or
3. evaluation of student work by criteria not directly reflective of performance relative to course requirements.

This final course grade change policy does not apply to allegations of academic dishonesty. Academic dishonesty matters should be addressed under the WSU STUDENT DUE PROCESS POLICY, which is outlined in detail on the Dean of Students' website (<http://doso.wayne.edu>).

Definition:

Instructor- Instructor applies to full-time, fractional-time, part-time faculty as well as Graduate Teaching Assistants, Adjuncts, and Academic Staff with teaching duties.

Final Course Grade Appeals Policy and Procedure

Informal Final Course Grade Review

1. Prior to an appeal of a course final grade all issues must first be directed to the instructor of the course for consideration of resolution.
2. The initial request of a grade review should be made directly to the instructor in an informal discussion during office hours or by a requested scheduled appointment.
3. If a student has documented efforts to obtain an informal meeting with the instructor and is unable to schedule this meeting within ten calendar days the student will then have the right to proceed to a formal grade appeal within thirty calendar days following posting of the final course grade. The instructor should make every reasonable effort to meet with the student during this time period prior to a formal appeal.

Formal Final Course Grade Appeal Policy and Procedure

If the final grade in question remains unchanged after the informal final course grade review, any formal Course Grade Appeal to change the grade in question must be initiated in writing by the student within thirty calendar days following the posting of the final course grade. The Student must submit a formal written appeal to the appropriate Department Chair. This formal appeal must include a copy of the current course syllabus and a student appeal letter including detailed justification for the appeal. This documentation must explicitly state which of the three criteria of allowable rationales is applicable and how the alleged violation occurred.

Formal Final Course Grade Appeal

1. The Department Chair shall provide a time-stamped and dated copy of the formal student course grade appeal to the instructor, program director or program/department grade appeal committee. The Department Chair will then request input and/or response from the instructor, program director or the program/department grade appeal committee.
2. Student or Faculty involved in a grade appeal process may contact the University Ombudsperson at any time for assistance with any

questions associated with a grade decision or the grade appeal process.

3. The Department Chair may convene an ad hoc special review committee (or charge an existing committee) to advise on any dispute.
4. The Department Chair shall review all documentation and respond in writing to the student within thirty calendar days of receiving the formal course grade appeal. The Department Chair will place, in writing, the final decision to the student, instructor, program director, program/department grade appeal committee or the reason for any delay in decision. The decision of the Department Chair can be appealed to the Office of the Dean.
5. Appeals to the Office of the Dean must be submitted in writing within ten calendar days of the postmarked response from the Department Chair. The Dean or his/her designee must respond to the student appeal within thirty calendar days. The decision of the Dean or his/her designee is the final decision at the College level.
6. If the appeal is denied at the Dean (designee) of the College level, the student may appeal to the Office of the Provost within thirty calendar days of the College's decision. The student's formal appeal to the Office of the Provost must include a copy of the current course syllabus, the initial student appeal letter including detailed justification for the appeal, the Department Chair's response letter, and the Dean's (or designee's) written response. The decision of the Provost or his/her designee is final. No further appeal is possible.

The student may also file with the Provost's Office 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.

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 fraternities, student professional organizations, and 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.

For detailed information regarding probationary status, refer to the program or department Student Handbook.

Dismissal from the Program

For detailed information regarding probationary status, refer to the program or department Student Handbook.

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.

Readmission Following Academic Dismissal

For detailed information regarding probationary status, refer to the program or department Student Handbook.

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 and the Student Code of Conduct.

Nurse Anesthesia

Offices: 4601-4606 CPHS

Program Director: Prudentia A. Worth; 313-993-7168; aa1635@wayne.edu

Assistant Program Director, and Director Anesthesia Services
Mary Walczyk; 4601 CPHS; 313-577-7689; mary.walczyk@wayne.edu

Clinical Coordinator: Nurse Anesthesia Students:
Nikki Fowler, DRH, nscales@dmc.org

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.

- Anesthesia (M.S.) (p. 277)

- Pediatric Anesthesia (Graduate Certificate) (p. 278)

Anesthesia (M.S.)

The program of Nurse Anesthesia has two curricular options; track I is the generic master curriculum for registered professional nurses, track II offers a degree completion for Certified Registered Nurse Anesthetists (CRNAs), both tracks lead to a Master of Science in Anesthesia.

Admission Requirements

Track I

This curriculum is designed for the registered professional nurse (RN) with a baccalaureate-degree in nursing (B.S.N.) or related 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 (DMC), 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 hospital in Toledo, Ohio, that 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 (NCE) to practice as a Certified Registered Nurse Anesthetist (CRNA).

Admission to this program is contingent upon admission to the Graduate School (p. 17) and satisfactory completion of the undergraduate and graduate prerequisites, and a personal interview with the Nurse Anesthesia Admission Committee. Applicants will be eligible for an interview only if all the nursing prerequisites are on file. Deadlines for submitting applications are outlined on the program's website (<http://www.cphs.wayne.edu/anesth>). Admission requirements include:

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 CCRN.
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 Advanced Cardiac Life Support (ACLS) certification.
9. A minimum of one in-hospital "shadow" experience by July 1. This can be arranged at your place of work by contacting the chief CRNA in the anesthesia department to schedule a shadow experience.

Track II

Track I is designed for Certified Registered Nurse Anesthetists (CRNAs) with a Baccalaureate Degree in Anesthesia from an accredited Nurse Anesthesia Program. The curriculum is structured to accommodate the practicing CRNA who wish to earn a masters degree in anesthesia.

Admission to this program is contingent upon admission to the Graduate School (p. 17) and satisfaction of the following professional program requirements prior to the personal interview. Admission requirements include:

1. Application and admission to graduate school
2. Official transcripts of both the nursing and anesthesia program.
3. Current Certification and Recertification as a Nurse Anesthetist.
4. Letters of reference from supervisor, chief anesthesiologist, and a work colleague.
5. Be available for a personal interview.

Track I students complete sixty-four credits in professional anesthesia core courses and ten credits in electives; Track II students complete thirty-two credits. All course work must be completed in accordance with the academic procedures of the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274).

Track I Students must complete sixty-four credits in Core anesthesia courses, and ten credits in program required electives.

Track I: Core Course Requirements

AN 7010	Advanced Health and Physical Assessment and Clinical Anesthesia Practicum I	1
AN 7020	Clinical Anesthesia Practicum II	2
AN 7030	Clinical Anesthesia Practicum III	2
AN 7040	Clinical Anesthesia Practicum IV	3
AN 7050	Clinical Anesthesia Practicum V	3
AN 7060	Clinical Anesthesia Practicum VI	2
AN 7100	Pharmacology I	4
AN 7110	Pharmacology II	3
AN 7120	Advanced Pharmacology of Anesthesia	2
AN 7150	Principles of Anesthesia I	4
AN 7160	Principles of Anesthesia II	3
AN 7170	Principles of Anesthesia III	2
AN 7180	Electrocardiography in Anesthesia Practice	1
AN 7190	Advanced Cardiovascular Patho-physiology and EKG	1
AN 7240	Advanced Physiology and Pathophysiology	2
AN 7500	Chemistry and Physics of Anesthesia	2
AN 7600	Regional Anesthesia	2
AN 7620	Pulmonary Mechanics and Anesthesia Implications	2
AN 7690	Advanced Clinical Anesthesia Practice Review I	1
AN 7700	Advanced Clinical Anesthesia Practice and Review II	1
AN 7730	Process of Teaching	2
AN 7780	Professional Dimensions of Anesthesia Practice	3
AN 7800	Pain Management for Nurse Anesthetists	1
AN 7880	Anesthesia Seminar (Max. 5)	1
AN 7885	Research Design for Anesthesia	1
AN 7890	Terminal Project	1
PSL 7010	Basic Graduate Physiology Lecture I	4
PSL 7030	Basic Graduate Physiology Lecture II	4

Track II: Course Requirements

Track II Students complete thirty-two credits of coursework. All course work must be completed according to the specified plan between student and the program and in accordance with the academic procedures of the Graduate School governing graduate scholarship and degrees.

Candidates may vary non-anesthesia course selections with consent of their advisor.

AN 7590	Advanced Anatomy for Nurse Anesthetists	4
AN 7600	Regional Anesthesia	2
AN 7730	Process of Teaching	2
AN 7880	Anesthesia Seminar (Max. 4)	1
AN 7890	Terminal Project	1
EER 7630	Fundamentals of Statistics	3
NUR 7710	Theoretical Perspectives of Teaching in Nursing	3
NUR 7720	Evaluation and Testing in Nursing Education	3
PSL 7010	Basic Graduate Physiology Lecture I	4
PSL 7030	Basic Graduate Physiology Lecture II	4

Track I and II students

To qualify for the Master of Science degree in anesthesia, all students must complete the required courses and maintain satisfactory cumulative grade point average of 3.0 or above in all courses. Track I curriculum courses are the same for all students and are offered annually in the same sequence.

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 the opportunity to develop a plan of work in collaboration with the Program Director. The Program Director will also serve as an advisor to the student.

Candidacy: Track I students will be advanced to candidacy upon completion of the first semester courses. Track II students must file a Plan of Work with their advisor prior to the completion of twelve graduate credits.

Academic Progress: Continuing in the master's program requires satisfactory progress as determined by the individual advisor and program director. Track II Students who have not registered for two or more consecutive semesters will be placed on inactive status. To continue with the curriculum the faculty and the program director will determine the most appropriate choices for the student.

Pediatric Anesthesia (Graduate Certificate)

Developed in collaboration with Children's Hospital of Michigan (CHM), the Graduate Certificate 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 Requirements

Applicants must meet the admission requirements of the Graduate School (p. 17). Applicants must meet with the course coordinators from Children's Hospital to assess availability and applicant eligibility to enter the program. Admission application and registration for classes are all completed on line. Upon completion of the program, the graduate must apply on line for a Post-masters Certificate in Pediatric Anesthesia.

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. All course work must be completed in accordance with the academic procedures of

the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274). 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	2
AN 7080	Clinical Practice II	3
AN 7090	Clinical Practice III	1
AN 7900	Advanced Pediatric Topics	2
AN 7910	Special Topics in Pediatric Anesthesia	2
AN 7920	Case Presentations	2
Total Credits		12

Occupational Therapy

Office: Room 2226 CPHS: 313-577-5884

Program Director: Doreen Head

Admissions Coordinator: Regina Parnell

Fieldwork Education Level II: Nancy Vandewiele-Milligan

Department Secretary: Cathy Lyles

Administrative Assistant II: Geraldine Neal

<http://cphs.wayne.edu/ot/>

- Occupational Therapy (M.O.T.) (p. 279)

Occupational Therapy (M.O.T.)

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 are 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 address for ACOTE is:

ACOTE, C/O Accreditation Department

American Occupational Therapy Association (AOTA)

4720 Montgomery Lane, Suite 200

Bethesda, MD 20814-3449.

The courses prepare students to take the National Certification Examination (National Board for Certification in Occupational Therapy (<http://www.nbcot.org>)).

American Occupational Therapy Association, Inc. (<http://www.aota.org>)
4720 Montgomery Lane, Suite 200

Bethesda MD 20814-3449

telephone: 301-652-6611; Fax: 301-652-7711

Admission Requirements

Admission: Applicants must meet the admission standards of the Graduate School (p. 17). Please contact the Occupational Therapy Program for further information.

Professional Program Admission: Applicants must apply for admission to the professional program and be formally admitted at the undergraduate level and transition to the Graduate level while in the program. All applicants must hold a minimum grade point average of 3.0 or above for the pre-professional 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:

1. complete twenty hours of contact with a registered occupational therapist and provide documentation of this;
2. complete a Program Personal/Professional Statement;
3. 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. For a checklist of application requirements, visit the program website (<http://www.cphs.wayne.edu/program/ot-ms-apply.php>). All applicants must apply through the Occupational Therapy Centralized Application Service (OTCAS) Application (<https://portal.otcas.org>).

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.

Undergraduate Preparation: For pre-professional and undergraduate-level professional requirements, applicants should consult the departmental website (<http://cphs.wayne.edu/ot/>), or the current Undergraduate Bulletin (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/occupational-therapy>).

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 must be completed in accordance with the academic procedures of the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274).

M.O.T. Professional Graduate Program

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 (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/occupational-therapy>) or contact the the College's Student Affairs Office.

Semester One (Winter)

OT 5040	Environmental Influence on Disability and Health	3
OT 6000	Interventions and Outcomes II (FWI School Jan.- April)	5
OT 6230	Motor Control	3
OT 7120	Topics in Assistive Technology	3

Semester Two (Spring)

OT 7200	Occupational Therapy Practice in Aging	3
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Elective I		3
Semester Three (Summer or Fall)		
OT 7898	Level II Fieldwork A: Medical	8
Semester Four (Fall or Winter)		
OT 7899	Level II Fieldwork B: Community	8

Electives

OT 6090	Directed Research	1-4
OT 7500	Specialist Roles in Occupational Therapy	3
OT 7990	Directed Study (Max. 5)	1-3

Pathologists' Assistant Program

Office: 338 Mort Sci; 313-577-2050

Program Director: Veralucia Mendes-Kramer

<http://cphs.wayne.edu/pathologists-assistant/>

The Pathologists' Assistant is academically and clinically prepared to assist pathologists in anatomic, surgical and autopsy pathology as well as ancillary services defined by the American Association of Pathologists' Assistants. The Wayne State University Pathologists' Assistant program trains individuals who will assist pathologists in the performance of postmortem examination and in the dissection, dictation, and evaluation of surgical specimens for microscopic diagnosis. The program also provides individuals with budgetary, supervisory, and teaching skills. Last, the program trains individuals to function as competent entry level pathologists' assistants capable of performing, under the supervision of a pathologist those professional responsibilities as defined by the American Association of Pathologists' Assistants (AAPA). The Pathologists' Assistant program is accredited by the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018-5119, 847-939-3597, 773-714-8880, Fax: 773-714-8886, <http://www.naacls.org>.

- Pathologists' Assistant (M.S.) (p. 280)

Pathologists' Assistant (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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 section of the Graduate Record Examination;
3. submit two letters of recommendation, one from a work supervisor, faculty member or from a pathologists' assistant; and
4. submit a 500-word narrative stating his/her personal and professional goals; and
5. documented proof of shadowing at a pathology laboratory gross room and medical examiner.
6. Applicants/students whose native language is not English must complete the TOEFL.

Admission Interview

Interview is by invitation only to those candidates who have satisfied all requirements for admission. Interviews are extended only to the most competitive candidates owing to the limited number of seats in the program. Meeting the minimum requirements to the program does not ensure an offer for an interview.

General Information Meetings

The Eugene Applebaum College of Pharmacy and Health Sciences hosts general information meetings (<http://cphs.wayne.edu/meetings.php>) on the first Tuesday of each month at 6:00 p.m.

Prerequisite Study

In addition, the following course work must have been successfully completed with a grade of "B" (3.0) or higher in order to be considered for admission. Science prerequisites listed below must be completed within the six years prior to the date of applying to this degree program.

Science Prerequisites Requirements

BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2600	Introduction to Cell Biology	3
BIO 2870	Anatomy and Physiology	5
BIO 3070	Genetics	5
CHM 1020	Survey of General Chemistry	4
CHM 1030	Survey of Organic/Biochemistry	4
MAT 1800	Elementary Functions	4

Science requirements must have been completed within the last six years prior to admission.

Non-science Prerequisite Requirements

ENG 1020	Introductory College Writing	3
ENG 3010	Intermediate Writing	3
PHI 2320	Introduction to Ethics	3

Program Deadlines: All prerequisite coursework must be completed by May 1st for fall admission consideration.

The Master of Science in Pathologists' Assistant is offered under a Plan C option and requires completion of the following course work. All course work must be completed in accordance with the academic procedures of the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274). A grade of 'C' in any graduate course is unacceptable.

Course	Title	Credits
First Year		
Fall Semester		
PAA 5020	Applied General Pathology	3
PAA 6560	Human Histology and Clinical Correlations	4
PAA 7060	Human Anatomy and Physiology for Pathologists' Assistants	4
PAA 7250	Clinical Academic Pathology I	3
Credits		14

Winter Semester		
PAA 5050	Clinical Terminology and Methodology for the Pathologists Assistant	3
PAA 5200	Medical Microbiology for Technical Professionals: Pathologists' Assistant	3
PAA 6061	Human Embryology and Pediatric Pathology	3
PAA 6420	Laboratory Management and Quality Management in Anatomic Pathology	3
PAA 7251	Clinical Academic Pathology II	3
		Credits 15

Spring/Summer Semester		
PAA 5100	Medical Photography and Techniques in Pathology	2
PAA 6150	Histochemistry for the Pathologists' Assistant	4
PAA 7200	Introduction to Autopsy Techniques	4
PAA 7252	Clinical Academic Pathology III	3
PAA 7420	Future Trends in Pathology Practice and Education Methodology	2
		Credits 15

Second Year		
Fall Semester		
PAA 7650	Surgical Pathology I	3
		Credits 3
Winter Semester		
PAA 7651	Surgical Pathology II	3
		Credits 3
Spring/Summer Semester		
PAA 7652	Surgical Pathology III	3

PAA 7890	Seminar in Anatomic and Surgical Pathology	2
		Credits 5
		Total Credits 55

Additional Year II courses (enrollment based on students' clinical rotations)

PAA 7500	Clinical Autopsy Pathology	2
PAA 7550	Clinical Histopathologic Technique	3
PAA 7600	Clinical Pediatric Pathology	1
PAA 7700	Forensic Pathology and Techniques	4
PAA 7750	Clinical Laboratory Management in Anatomic Pathology	2
PAA 7800	Clinical and Forensic Photography	3

Physical Examination

Prior to clinical rotations, all applicants are required to submit a complete physical examination form to the program, which must include a complete immunization record, evidence of HBV antibody titre, TB status, and flu vaccination record.

Liability Insurance

Clinical Education is provided during both year I and II of the program, along with didactic and laboratory courses. Year II of the program is spent in clinical rotations through various selected clinical facilities throughout the metropolitan Detroit area, Michigan and other parts of the country, handling patients specimens and decedent remains. Therefore, all students are required to maintain liability insurance, which will be purchased during both years of the program as a separate fee from those courses the student enrolls in. In addition, the student is responsible for the cost of health insurance and all other costs (such as travel, meals, and living expenses) associated with the clinical education of the program.

Pharmaceutical Sciences

Office: 3610 CPHS; 313-577-1047
Chairperson: George B. Corcoran

<http://www.cphs.wayne.edu/psc/index.php>

The pharmaceutical sciences encompass the traditional disciplines of medicinal or pharmaceutical chemistry, pharmaceuticals and pharmacology/toxicology. 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, pharmacology and the relationships among chemical structure, physical properties and biological activity. Pharmaceuticals is concerned with the conception, design, production, characterization, and evaluation of drug delivery systems in vitro and in vivo. Pharmaceuticals includes physical, chemical, biological, microbiological 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.

Applicants with a strong background in the behavioral, biological, pharmacy and/or the physical sciences are excellent candidates for graduate work in this department. Study within this department is heavy focused on an interdisciplinary approach and the curriculum involves a

single major with specializations rather than separate majors. This leads to greater flexibility in designing individualized programs geared to the applicant's preparation and interests.

- Pharmaceutical Sciences (M.S.) (p. 282)
- Pharmaceutical Sciences (Ph.D.) (p. 283)

Pharmaceutical Sciences (M.S.)

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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. There are no minimum GRE scores required for admissions; however, applicants scoring below 150 on the quantitative portion of the exam are generally not admitted.

Applicants whose native language is other than English must demonstrate proficiency in English (p. 17) prior to beginning the program.

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, possible research interests, and a list of faculty members that the applicant is interested in working with for their thesis.
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.

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.

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 as formalized by the Plan of Work. In addition to individualized courses, all Master of Science students are required to complete four core interdisciplinary courses:

PSC 6800	Introduction to Research	2
PSC 7010	Advanced Drug Action and Safety I	3
PSC 7020	Advanced Drug Discovery I	3
PSC 7040	Advanced Drug Formulation and Delivery I	3

All students in the Graduate Program are required to attend Departmental Seminars (PSC 7850, each semester). Each Master's degree student must present one regular Departmental seminar on their final research project. In addition, all Master's students will register for one credit of Introduction to Seminar, PSC 7860, 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. 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 of the thesis is required of all candidates.

Selection of Advisor: The Graduate Officer will serve as temporary advisor to the applicant during the first semester. During this semester, the applicant will conduct three research rotations in the laboratory of selected Faculty. Students are encouraged to meet with all graduate faculty in the specialty and discuss their research interests. At the end of the first semester, all Master's students must 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. If a student fails to find an advisor, the Graduate Officer may provide the student with an additional research rotation. Failure to find a research advisor could result in removal from the program.

Candidacy: Applicants apply to the College Graduate Officer 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: All students are required to complete a comprehensive Capstone exam after the successful completion of all required courses. In addition, at the conclusion of the Fall and Winter semesters, progress of every student in the program will be reviewed by the departmental Graduate Program Committee. Each student is evaluated in terms of performance in course work, research progress, fulfillment of University requirements for filing a Plan of Work, 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. All course work must be completed in accordance with the academic procedures of the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274).

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 departmental course;
3. Notification from the advisor and/or thesis committee that the student is not making adequate progress in his/her research.
4. Inappropriate, unprofessional and unsafe conduct as determined by the Graduate Program Committee.

The student will be informed in writing, at the time of being placed on probation, of the requirements for removal from probationary status. The decision to place a student on probation rests with the Graduate Program Committee.

A student may be dismissed from the program for the following reasons:

1. Failure to comply with requirements set by the Graduate Program committee;
2. Receipt of two or more grades below 'B' in any single semester;
3. Unauthorized leave of absence;
4. Inability to find a research advisor;
5. Receipt of a grade less than B while on probation.

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 Graduate Program Committee and the College Graduate Officer before registering again.

Pharmaceutical Sciences (Ph.D.)

Admission Requirements

Admission: In addition to the requirements of the Graduate School (p. 17), the applicant should present a bachelor's or master's degree with a major in the behavioral, biological, pharmaceutical or physical sciences.

The General portion of the Graduate Record Examination is required of all applicants. There are no minimum GRE scores required for admissions; however, applicants scoring below 150 on the quantitative portion of the exam are generally not admitted.

Applicants whose native language is other than English must demonstrate proficiency in English (p. 17) prior to beginning the program.

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, possible research interests and a list of faculty members that the applicant is interested in working with for their dissertation.
2. Three letters of recommendation.

Candidates for the doctoral degree must complete ninety credits beyond the baccalaureate degree, in compliance with the academic procedures of the Graduate School's requirements for doctoral degrees (p. 35). All PhD students are required to complete four core interdisciplinary courses:

PSC 6800	Introduction to Research	2
PSC 7010	Advanced Drug Action and Safety I	3
PSC 7020	Advanced Drug Discovery I	3
PSC 7040	Advanced Drug Formulation and Delivery I	3

The thirty-credit dissertation registration requirement is fulfilled by registering for the courses PSC 9991, PSC 9992, PSC 9993, and PSC 9994 (Doctoral Dissertation Research and Direction I, II, III, and IV, respectively), in consecutive academic year semesters.

Selection of Advisor: Doctoral students either select an advisor after rotating in three labs or are directly placed under the supervision of an advisor.

Seminar Presentation: All Ph.D. students will register for PSC 7850 each semester they are in the program. In total, all PhD students must present three seminars not including their defense seminar. Students register for one credit of Introduction to Seminar, PSC 7860, 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 Ph.D. students will register for one credit of PSC 7870, Second Year Seminar (Winter semester) and PSC 7880, Third Year Seminar (Fall). For PSC 7870, the 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 email 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. PSC 7880 will take place after the student has obtained Candidacy and will be on their dissertation research.

Academic Progress: All students are required to complete a comprehensive Capstone exam after the successful completion of all required courses. In addition, at the conclusion of the Fall and Winter semesters, progress of every student in the program will be reviewed by the departmental Graduate Program Committee. Each student is evaluated in terms of performance in course work, research progress, fulfillment of University requirements for filing a Plan of Work, 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. All course work must be completed in accordance with the academic procedures of the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274).

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 departmental course;
3. Notification from the advisor and/or thesis committee that the student is not making adequate progress in his/her research.
4. Inappropriate, unprofessional and unsafe conduct as determined by the Graduate Program Committee.

The student will be informed in writing, at the time of being placed on probation, of the requirements for removal from probationary status. The decision to place a student on probation rests with the Graduate Program Committee.

A student may be dismissed from the program for the following reasons:

1. Failure to comply with requirements set by the Graduate Program committee;
2. Receipt of two or more grades below 'B' in any single semester;
3. Unauthorized leave of absence;
4. Inability to find a research advisor;
5. Receipt of a grade less than B while on probation.

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 Graduate Program Committee and the College Graduate Officer before registering again.

Pharmacy Practice

Office: 2152 CPHS; 313-577-0826

Chairperson: Brian L. Crabtree

<http://www.cphs.wayne.edu/practice/index.php>

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 comprehensive medication management, 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 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.

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

- Pharmacy (Pharm.D.) (p. 284)
- Pharmacy (Pharm.D. Research Scholars) (p. 287)

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) pre-professional core courses at the undergraduate level, with a grade point average of 2.75 or better, and demonstrated competency in computer literacy, critical thinking, and oral communication.

For complete information on admission, and pre-professional and professional undergraduate program requirements, consult the Wayne State University Undergraduate Bulletin.

Application: Deadline for submission of all application materials is the first Monday in November each year. The Doctor of Pharmacy Program participates in the Early Decision program. Applications are available through the Pharmacy College Application Service (<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 Requirements

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 2.75 (on a four-point system), calculated on the final grades earned in the required pre-professional 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 no later than the year prior to admission. 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. A personal interview is required.
7. Nonacademic factors including work experience, community service and leadership abilities will be evaluated.
8. A criminal background check is performed on all accepted applicants and is evaluated prior to an applicant matriculating into the program.

The Doctor of Pharmacy requires a minimum of 124 credits in the professional program. All course work must be completed in accordance with the academic procedures of the Graduate School (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274).

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. Students should also note that they may apply for a Bachelor of Health Sciences with a concentration

in Pharmaceutical Sciences after completion of their first year of the Pharm.D. program. Students are eligible once they have completed a minimum of 120 credits, including all university general education requirements, professional courses in the P1 year, and any electives needed to reach that 120 credit minimum. The B.H.S. degree will allow students the opportunity to enter other fields of advanced study which require a baccalaureate degree, but granting of the B.H.S. degree does not qualify for licensure; application for licensure will occur after completion of the Pharm.D. degree.

Pharm.D. Professional Curriculum - Without Concentration

Course	Title	Credits
First Year		
Fall Semester		
PHA 4105	Pathophysiology 1	3
PHA 4125	Drug Literature Evaluation and Foundations of Research	3
PSC 4115	Pharmaceutics I	3
PSC 4125	Introduction to Pharmaceut Sciences: Medicinal Chemistry / Pharmacology Immunology	3
PPR 4115	Social Administrative Sciences and Professional Development I	2
		Credits 14
Winter Semester		
PHA 4205	Pathophysiology II	2
PHA 4225	Principles of Pharmacoth I: Respiratory, Gastroenteric Allergy, Ophthalmologic	4
PHA 4235	Pharmacotherapeutic Problem Solving I: Respiratory, Gastroenterology, Allergy, Ophthalmology	2
PSC 4215	Pharmaceut II	2
PSC 4225	Autonomic Pharmacology	2
PPR 4245	Patient Care Lab 1	1

PPR 4255	Social Administrative Sciences and Professional Development II	2
		Credits 15
Spring Semester		
PPR 4315	Pharmacy Jurisprudence	2
PPR 4365	Introductory Pharmacy Practice Experience I	1
		Credits 3
Second Year		
Fall Semester		
PHA 5115	Principles of Pharmacoth II: Cardiology, Nephrology	5
PHA 5125	Principles of Pharmacotherapy III: Endocrinology, Gynecology, Urology	4
PHA 5135	Pharmacoth Problem Solving II: Nephrology, Cardiology, Endocrinology, Gynecology, Urology	2
PSC 5115	Pharmacokinetics	2
PPR 5145	Patient Care Lab II	1
PPR 5155	Social Administrative Sciences and Professional Development III: Practice Management	2
PPR 5165	Introductory Pharmacy Practice Experience II	1
		Credits 17
Winter Semester		
PHA 5215	Principles of Pharmacoth IV: Infectious Diseases	4
PHA 5225	Principles of Pharmacotherapy V: Neurology, Psychiatry	4

PHA 5235	Pharmacoth Problem Solving III: Infectious Diseases, Neurology, Psychiatry	2
PPR 5245	Patient Care Lab III	1
PPR 5215	Applied Pharmacokin and Pharmacoge	2
PPR 5255	Social Administrative Sciences and Professional Development IV	2
PPR 5265	Introductory Pharmacy Practice Experience III	1
Professional Elective Option (Directed Study only)		2
Credits		18
Spring Semester		
Professional Elective Option (Didactic and/or Directed Study) ¹		2-4
Credits		2-4
Third Year		
Fall Semester		
PHA 6125	Principles of Pharmacotherapy VI: Oncology, Advanced Immunology	3
PHA 6135	Pharmacoth Problem Solving IV: Oncology and Advanced Pharmacoth	3
PPR 6115	Applied Therapeutics in Self-Care	2
PPR 6145	Patient Care Lab IV	1
PPR 6155	Social Administrative Sciences and Professional Development V	3
PPR 6165 or PPR 6175	Community- Introductory Pharmacy Practice Experience (C-IPPE) ² or Hospital- Introduct Pharmac Practice Experien (H- IPPE)	2
Professional Electives (Didactic and/or Directed Study) ¹		2
Credits		16

Winter Semester		
First Seven-week Block:		
PHA 6235	Pharmacoth Problem Solving V: Drug Induced Diseases	2
Second Seven-week Block:		
PPR 6295	Clinical Capstone	2
Courses Taken Throughout Semester:		
PSC 6285	Pharmacy Seminar	1
PPR 6165 or PPR 6175	Community- Introductory Pharmacy Practice Experience (C-IPPE) ² or Hospital- Introductory Pharmacy Practice Experience (H- IPPE)	2
PPR 6235	Social Administrati Sciences and Professional Developmen V	2
PPR 6245	Pharmacy Ethics and Professional Responsibility	2
Professional Electives ¹		2-4
Credits		13-15
Fourth Year		
Students are required to complete seven advanced practice rotations during the P-4 year.		
Spring/Summer, Fall, and Winter Semesters		
PPR 7410	Advanced Pharmacy Practice Inpatient/ Acute Care	4
PPR 7420	Advanced Pharmacy Practice Ambulatory Care	4
PPR 7430	Advanced Pharmacy Practice Patient Care Core	4
PPR 7550	Advanced Pharmacy Practice Hospital	4
PPR 7560	Advanced Pharmacy Practice Community	4
Elective Adv. Pharm. Pract Patient Care or Non-Patient Care		4
Elective Adv. Pharm. Pract Patient Care or Non-Patient Care		4
Credits		28
Total		126-130
Credits		

¹ A total of 6 credits of professional electives must be taken between the start of the Second Year Winter Semester and completion of the Third Year Winter Semester; only Directed Study electives may be taken prior to the Spring/Summer of the Second Year. Students in the Research Scholars Track will fulfill the professional elective requirement with 4 credits of PHA 5195 (Research Scholars Elective) in addition to PHA 4395 Research Scholars: Research Development, subject to the provisions outlined in the Research Scholars Concentration.

² PPR 6165 and PPR 6175 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.

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 organizations, 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 on the website (<http://www.cphs.wayne.edu/pharmd/resources.php>).

Pharmacy (Pharm.D. Research Scholars)

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) pre-professional core courses at the undergraduate level, with a grade point average of 2.75 or better, and demonstrated competency in computer literacy, critical thinking, and oral communication.

For complete information on admission, and pre-professional and professional undergraduate program requirements, consult the Wayne State University Undergraduate Bulletin.

Application: Deadline for submission of all application materials is the first Monday in November each year. The Doctor of Pharmacy Program participates in the Early Decision program. Applications are available through the Pharmacy College Application Service (<http://www.pharmCAS.org>) (PharmCAS). 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 Requirements

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 2.75 (on a four-point system), calculated on the final grades earned in the required pre-professional 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 no later than the year prior to admission. 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. A personal interview is required.
7. Nonacademic factors including work experience, community service and leadership abilities will be evaluated.
8. A criminal background check is performed on all accepted applicants and is evaluated prior to an applicant matriculating into the program.

Admissions Requirements to the Research and Scholars Concentration

Pharm.D. students admitted to the WSU Doctor of Pharmacy program are eligible to apply to the Research Scholars Program by December 1st of their P1 year only. Application requirements include:

1. A grade of "B" or better in PHA 4125 Drug Literature and Foundations of Research Course.
2. A cumulative undergraduate G.P.A. of 3.0 or higher at end of fall semester in the P1 year.
3. A minimum composite score at the 75th percentile on the PCAT, with minimum PCAT component scores at the 75th percentile in the chemistry, quantitative and biology sections. The PCAT requirement can be waived by the Research Scholars admissions committee. (As an exception for the 2016 entering class, the PCAT requirement is

waived for HealthProStart students who were not required to take PCAT for admission to the PharmD program.)

- Submission of an essay describing interests, career goals, and any past research experiences. Additionally, a resume or curriculum vitae should be included with the application.

Pharm.D. Professional Curriculum with Research Scholars Concentration

The Research Scholars concentration is offered to students who desire to complete a focus aimed at the development of research related knowledge and skills. There are a limited number of seats available and interested students must apply and be accepted to take this Concentration. Students are selectively offered a position in the Research Scholars Concentration and complete a longitudinal research project as part of that concentration. This program requires completion of PHA 4395 Research Scholars: Research and Development. In subsequent semesters, 4 credit hours of Research Scholars elective (PHA 5195) must be taken between Winter P2 and Winter P3 year, as agreed upon by the faculty research mentor and Research Scholars Program Director. Students in the Research Scholars Concentration will take a special section of the Pharmacy Seminar (PSC 6285) Students electing to and being accepted into this concentration must also complete 1 additional mandatory research focused Advanced Pharmacy Practice Experience (PPR 7195) for 4 credit hours in the place of an elective Advanced Pharmacy Practice Experience offering.

Course	Title	Credits
First Year		
Fall Semester		
PHA 4105	Pathophysiology 1	3
PHA 4125	Drug Literature Evaluation and Foundations of Research	3
PSC 4115	Pharmaceutics I	3
PSC 4125	Introduction to Pharmaceut Sciences: Medicinal Chemistry / Pharmacology Immunology	3
PPR 4115	Social Administrative Sciences and Professional Development I	2
		Credits 14
Winter Semester		
PHA 4205	Pathophysiology II	2
PHA 4225	Principles of Pharmacoth I: Respiratory, Gastroenteric Allergy, Ophthalmolc	4

PHA 4235	Pharmacotherapeutic Problem Solving I: Respiratory, Gastroenterology, Allergy, Ophthalmology	2
PSC 4215	Pharmaceut II	2
PSC 4225	Autonomic Pharmacology	2
PPR 4245	Patient Care Lab 1	1
PPR 4255	Social Administrative Sciences and Professional Development II	2
		Credits 15
Spring Semester		
PPR 4315	Pharmacy Jurisprudence	2
PPR 4365	Introductory Pharmacy Practice Experience I	1
PHA 4395	Research Scholars: Research Development	2
		Credits 5
Second Year		
Fall Semester		
PHA 5115	Principles of Pharmacotherapy II: Cardiology, Nephrology	5
PHA 5125	Principles of Pharmacoth III: Endocrinology, Gynecology, Urology	4
PHA 5135	Pharmacotherapeutic Problem Solving II: Nephrology, Cardiology, Endocrinology, Gynecology, Urology	2
PSC 5115	Pharmacokinetics	2
PPR 5145	Patient Care Lab II	1
PPR 5155	Social Administrative Sciences and Professional Development III: Practice Management	2
PPR 5165	Introductory Pharmacy Practice Experience II	1
		Credits 17

Winter Semester

PHA 5215	Principles of Pharmacotherapy IV: Infectious Diseases	4
PHA 5225	Principles of Pharmacoth V: Neurology, Psychiatry	4
PHA 5235	Pharmacotherapeutic Problem Solving III: Infectious Diseases, Neurology, Psychiatry	2
PPR 5245	Patient Care Lab III	1
PPR 5215	Applied Pharmacokinetics and Pharmacogenomics	2
PPR 5255	Social Administrative Sciences and Professional Development IV	2
PPR 5265	Introductory Pharmacy Practice Experience III	1
PHA 5195	Research Scholars: Research Conduct Elective	1-4
Credits		17-20

Spring Semester

PHA 5195	Research Scholars: Research Conduct Elective	1-4
Credits		1-4

Third Year

Fall Semester

PHA 6125	Principles of Pharmacoth VI: Oncology, Advanced Immunology	3
PHA 6135	Pharmacotherapeutic Problem Solving IV: Oncology and Advanced Pharmacotherapeutics	3
PPR 6115	Applied Therapeutics in Self-Care	2
PPR 6145	Patient Care Lab IV	1

PPR 6155 or PPR 6175	Social Administrative Sciences and Professional Development V ⁴ or Hospital-Introductory Pharmac Practice Experience (H-IPPE)	3
PHA 5195	Research Scholars: Research Conduct Elective	1-4
Credits		13-16

Winter Semester

First Seven-week Block:		
PHA 5235	Pharmacoth Problem Solving III: Infectious Diseases, Neurology, Psychiatry	2
Second Seven-week Block:		
PPR 6295	Clinical Capstone	2
Courses Taken Throughout Semester:		
PSC 6285	Pharmacy Seminar	1
PPR 6165 or PPR 6175	Community-Introductory Pharmacy Practice Experience (C-IPPE) or Hospital-Introductory Pharmacy Practice Experience (H-IPPE)	2
PPR 6235	Social Administrative Sciences and Professional Development V	2
PPR 6245	Pharmacy Ethics and Professional Responsibility	2
PHA 5195	Research Scholars: Research Conduct Elective ³	1-4
Credits		12-15

Fourth Year

Students are required to complete seven advanced practice rotations during the P-4 year.
Spring/Summer, Fall, and Winter Semesters

PPR 7410	Advanced Pharmacy Practice Inpatient/ Acute Care	4
PPR 7420	Advanced Pharmacy Practice Ambulatory Care	4
PPR 7430	Advanced Pharmacy Practice Patient Care Core	4
PPR 7550	Advanced Pharmacy Practice Hospital	4
PPR 7560	Advanced Pharmacy Practice Community	4
PPR 7195	Advance Research Scholars: Advance Pharmacy Practice Experience	4
Elective Adv. Pharm. Pract Patient Care or Non-Patient Care		4
		Credits 28
		Total 122-134 Credits

- ³ Students in the Research Scholars Concentration will elect to take 4 credits of PHA 5195 at any time over the course of the Second and Third year.
- ⁴ PPR 6165 and PPR 6175 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.

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 organizations, 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 on the website (<http://www.cphs.wayne.edu/pharmd/resources.php>).

Physical Therapy

Office: 2248 CPHS; 313-577-1432
 Program Director: Sara F. Maher
 Director of Clinical Education: Martha Schiller
<http://www.pt.cphs.wayne.edu/>

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. Students interested in the physical therapy should profession also visit the APTA (<http://www.apta.org>) website.

Accreditation: The Physical Therapy Program at Wayne State University is accredited by the Commission on Accreditation in Physical Therapy Education (<http://www.capteenline.org/Home.aspx>) (CAPTE). 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.

- Physical Therapy (D.P.T.) (p. 290)

Physical Therapy (D.P.T.)

General Admission

Admission to this program is contingent upon admission to the Graduate School (p. 17) and completion of the pre-professional course component (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/physical-therapy/preprofessional-program/#requirements>).

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 (p. 17). Starting in 2015, the Graduate Record Examination will be required.

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 prerequisite courses,
4. all physical therapy non-science prerequisite courses, and
5. an upper-level concentration to be considered for admission.

Applicants who will have completed a baccalaureate degree prior to enrollment in the physical therapy program must complete all physical therapy science prerequisite courses and all physical therapy non-science prerequisite courses. Additional information on program-specific prerequisites can be found in the Physical Therapy section (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/physical-therapy/physical-therapy-concentration-bhs/#requirements>) of the Undergraduate Bulletin.

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.

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.

Degree Requirements - Entry-Level Program

The Doctor of Physical Therapy degree requires a minimum of 123 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 (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274). 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 program, 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)

PT 5010	Clinical Applications I	1
PT 5020	Foundations of Physical Therapy	2
PT 5030	Basic Patient Care in Physical Therapy	2
PT 5070	Clinical Applications II	2
PT 5100	Therapeutic Exercise I	3
PT 5120	Human Growth and Development	2
PT 5300	Surface Anatomy	2
PT 5320	Basic Examination and Evaluation Procedures	3
PT 5400	Neurosciences for Health Care Professionals	3
PT 5430	Clinical Medicine	4
PT 5500	Kinesiology and Biomechanics	3
PT 5505	Clinical Applications of Human Anatomy	3
PT 5510	Clinical Applications of Human Anatomy: Laboratory	1
PT 5650	Pathophysiology for Health Sciences	3
PT 5660	Pathokinesiology	3
PT 5800	Clinical Education I	3
PT 5820	Clinical Education II	3
PT 6100	Therapeutic Exercise II	3
PT 6200	Diversity, Ethics and Legal Issues in Health Care	3
PT 6300	Research I: Critical Thinking	2
PT 6310	Physiology of Exercise II	3
PT 6400	Teaching and Learning in Health Care	2
PT 6500	Pharmacology	2
PT 6700	Motor Learning and Motor Control	2
PT 6750	Seminar: Complementary and Alternative Health Care	2
PT 7000	Therapeutic Modalities	3
PT 7100	Management of Patients with Orthopedic Conditions I	3
PT 7120	Management of Patients with Orthopedic Conditions II	3
PT 7200	Management of Patients with Neurological Disorders I	3
PT 7220	Management of Patients with Neurological Disorders II	3
PT 7300	Orthotics and Prosthetics	3
PT 7320	Rehabilitation Procedures	3
PT 7400	Cardiopulmonary Rehabilitation	4
PT 7600	Physical Therapy for Medical and Surgical Conditions	3
PT 7700	Research II: Design & Methodology	2
PT 7720	Research III: Data Analysis and Interpretation	2
PT 8000	Therapeutic Management of Pediatric Populations	3
PT 8110	Geriatrics	2

PT 8200	Management in Physical Therapy Practice	2
PT 8300	Differential Diagnosis for Health Sciences	3
PT 8400	Diagnostic Procedures for Health Sciences	2
PT 8500	Clinical Decision Making	3
PT 8600	Health Promotion and Wellness	2
PT 8800	Clinical Internship I	4
PT 8820	Clinical Internship II	8
Total Credits		123

Degree Requirements - Transitional Program

Students in this program are required to complete 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)

PT 6300	Research I: Critical Thinking	2
PT 6400	Teaching and Learning in Health Care	3
PT 6700	Motor Learning and Motor Control	3
PT 7990	Directed Study	3
PT 8170	Professional Development and Reflective Practice	3
PT 8300	Differential Diagnosis for Health Sciences	3
PT 8400	Diagnostic Procedures for Health Sciences	3
PT 8850	Clinical Practicum	3
Total Credits		23

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 this must be in effect prior to and during the professional program. Liability insurance is rolled into course fees associated with clinical education. The student is responsible for the cost of health insurance and all other costs (such as travel, meals, living expenses) associated with the clinical education portion of the program.

Physician Assistant Studies

Office: 2590 CPHS; 313-577-1368
Program Director: John McGinnity

<http://www.pa.cphs.wayne.edu/>

A physician assistant (PA) is a health care provider who is nationally certified and is found in every medical specialty and setting. PAs manage the full scope of patient care, often handling patients with

complex medical problems. PAs conduct physical exams, assist in surgery, diagnose and treat illness, order and interpret tests, counsel on preventative health care, and prescribe medications. The role may also include educational, research, and administrative activities as well as clinical responsibilities. PAs are critical members of the health care team, collaborating with physicians and all team members to improve patient outcomes.

- Physician Assistant Studies (M.S.) (p. 292)

Physician Assistant Studies (M.S.) Admission Requirements

Admission to this program is conducted through applications submitted to the Centralized Application Service for PAs (CASPA) (<http://www.caspaonline.org>) and is contingent upon admission to the Graduate School (p. 17). 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 an essay expressing your motivation to become a PA;
5. have a minimum of 500 hours of direct, "hands-on" patient care experience in a health-service environment;
6. non-native English speakers must complete the TOEFL.

Please consult the WSU PAS program (<http://www.pa.cphs.wayne.edu>) for a complete list of admission criteria.

Admission Interview: Admission to the Program is competitive. All those admitted to the WSU PAS program have satisfied all requirements listed above, and have successfully completed a personal interview. Interviews are offered to the most competitive candidates, not all candidates meeting the minimum requirements.

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 WSU Graduate School, and
2. one through the CASPA.

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. Visit the program website (<http://cphs.wayne.edu/meetings.php>) for details.

Prerequisite Study

In addition, the following coursework must have been successfully completed with a grade of "B" (3.0) or higher in order to be considered for admission:

- Anatomy:¹ one course
- Human physiology:¹ two courses, (one course must be 3000 level or above)
- Microbiology¹ (with laboratory): one course
- Nutrition: one course
- Chemistry¹: 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

¹ Must be completed within the six years prior to the date of application to this degree program:

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 (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274), respectively, and in accordance with the Physician Assistant Studies Program Student Policy and Information Manual. A grade of 'C' in any graduate course is unacceptable.

Course	Title	Credits
First Year		
Spring/Summer Semester		
PAS 7000	Anatomy for Physician Assistants I	2
PAS 7001	Anatomy for Physician Assistants II	1
PAS 7010	Clinical Medicine I	3
PAS 7040	Patient Evaluation I	2
PAS 7070	Health Care Issues I	1
PAS 7500	Pathophysiology I	1
	Credits	10
Fall Semester		
PAS 7020	Clinical Medicine II	3
PAS 7050	Patient Evaluation II	2
PAS 7080	Health Care Issues II	1
PAS 7100	Pharmacology I	2
PAS 7510	Pathophysiology II	1
	Credits	9
Winter Semester		
PAS 7030	Clinical Medicine III	4
PAS 7060	Patient Evaluation III	3
PAS 7090	Health Care Issues III	1
PAS 7110	Pharmacology II	2
PAS 7520	Pathophysiology III	1
	Credits	11
Second Year		
Spring/Summer Semester		
PAS 8000	Internal Medicine Rotation: Practicum	4

PAS 8050	Surgery Rotation: Practicum	4
	Credits	8
Fall Semester		
PAS 8010	Obstetrics and Gynecology Rotation: Practicum	2
PAS 8020	Emergency Medicine Rotation: Practicum	2
PAS 8030	Pediatrics Rotation: Practicum	2
PAS 8040	Psychiatry Rotation: Practicum	2
	Credits	8
Winter Semester		
PAS 8060	Family Medicine Rotation: Practicum	6
PAS 8070	Preceptorship	2
	Credits	8
	Total Credits	54

Note: The sequencing of clinical year two rotation is illustrative of a typical student schedule but may vary in individual cases.

Radiologist Assistant Studies

Office: EACPHS, Suite 4118; 313-916-1348
<http://www.cphs.wayne.edu/program/ra-ms.php>

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.

- Radiologist Assistant Studies (M.S.) (p. 293)

Radiologist Assistant Studies (M.S.)

Admission Requirements

An admissions moratorium is in effect for this program.

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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.

An admissions moratorium is in effect for this program.

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 (p. 12) governing graduate scholarship and degrees and the College of Pharmacy and Health Sciences (p. 274), respectively; and in accordance with the Radiologist Assistant Studies Program Student Policy and Information Manual. A grade of 'C' in any graduate course is unacceptable.

SCHOOL OF SOCIAL WORK

Interim Dean: Jerrold Brandell

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 for the promotion of social, cultural and economic justice for poor, vulnerable, and oppressed population groups and for society as a whole. This mission is accomplished in a learning environment designed to prepare ethical and competent social work practitioners, in primarily urban settings, for social work practice, for conducting research with particular relevance to urban populations; and for innovative leadership and service to the urban community and the social work 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 demonstrates its commitment to addressing the problems of people living in this environment through 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 help alleviate the conditions of those affected by poverty, racism, sexism, ageism, homophobia, unemployment, or mental health challenges and physical and/or developmental impairments. Students learn evidence-based 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 national 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 and oversight for doctoral degree programs in this field.

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 degrees. 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. The Doctor of Philosophy degree 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 graduates who have completed bachelor's and/or master's degrees. The School offers Dual Title and Graduate Certificate Programs, as well as special institutes and workshops for individuals employed in the field of social welfare and school social work. Continuing education in social work is also offered through the School's Continuing Education Program.

School Social Work Approval Program

Students enrolled in the program leading to the Master of Social Work degree 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>).

Graduate Degree Programs

- Social Work (M.S.W.) (p. 295)
- Social Work (Ph.D.) (p. 298)
- Social Work & Anthropology (SWAN Ph.D.) (p. 300)
- Social Work & Gerontology (Ph.D. Dual-Title) (p. 302)
- Social Work & Infant Mental Health (M.S.W. or Ph.D. Dual-Title) (p. 302)

Social Work (M.S.W.)

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 Requirements

Eligibility for admission requires a bachelor's degree from an accredited undergraduate program and an earned minimum g.p.a. of 3.0 or above. A g.p.a. of 2.75 to 2.9 may be considered based on program capacity and strength of application. Admissions applications are reviewed when

all required supporting materials have been received by the program. New students admitted into the foundation (core) year of the Master of Social Work program begin in the Fall term of each academic year. Applicants admitted into the advanced standing program begin in the summer semester of the academic year. All applicants are encouraged to submit applications as soon as possible as admissions will close once program capacity has been reached. Applications to the program may be submitted up to one year prior to the start of the beginning term of the selected program. Applicants are encouraged to apply and submit all application materials to the program by the priority processing date of October 1st. All application materials must be submitted by the admissions deadline of April 1st.

Applicants to the full-time or part-time program leading to the Master of Social Work must complete the online application (<http://www.gradadmissions.wayne.edu/apply.php>) and submit payment of the application fee. All application documents are submitted online. Official transcripts are to be submitted to the Office of Graduate Admissions, Wayne State University, directly from all previous college(s) or universities where college credits have been earned. A resume, personal interest statement, and three references are included in the online application documents to WSU. Applicants must

1. hold a four year baccalaureate degree from an accredited institution;
2. have completed thirty semester credits in academic work distributed in the social, behavioral, and biological sciences, and in English and the humanities;
3. show evidence of suitability and fitness for the profession and the ability to successfully undertake graduate professional education in social work.

Applications for admission to the School of Social Work for the Master of Social Work degree are given careful review in order to select those students best able to fulfill the requirements for professional social work education. The School reserves the right to make the final determination about all admissions decisions.

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 (or accredited by the Canadian Association of Schools of Social Work (CASSW)) may be admitted with advanced standing. The School reserves the right to make the final determination about all Advanced Standing Program admissions decisions.

Students admitted with advanced standing status are required to complete eight graduate credits toward the M.S.W. degree during the summer term following admission. In order to complete the degree program, thirty additional credits are required in the advanced year of the curriculum as prescribed within the student's selected concentration area. Students must complete the summer curriculum courses (see below) before enrolling in the advanced concentration area curriculum courses.

SW 7070	Bridge: Micro & Mezzo Practice and Theory	4
SW 7620	Bridge: Social Welfare Policy, Research and Macro Practice	4
Total Credits		8

Students may waive one or more of these summer courses by successfully completing a waiver exam. Successful completion of a waiver exam will signify the course is waived without graduate credit thus

freeing the student to take other courses to meet degree requirements. 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 nine 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. The School prohibits discrimination against individuals because of political orientation. Copies of School and University nondiscrimination policies (p. 63) 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 for up to one calendar year. 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 nine 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 (<http://www.gradadmissions.wayne.edu/apply.php>) indicating non-degree status in the School of Social Work and payment of application fee.

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.

Academic Regulations (M.S.W.)

For complete information regarding the academic rules and regulations of the University, students should consult the Academic Regulations (p. 12) section of this bulletin. The following additions and amendments pertain to the School of Social Work.

Students in the School of Social Work are responsible for informing themselves of all rules, regulations, and requirements, complying with all official 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.

Time Limitation

Students have a six-year time limit to complete requirements for the Master of Social Work.

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 SW 7998 and SW 8998, Field Work for Social Workers I and II, are required to carry professional liability insurance (now provided by the school) 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.

The Master of Social Work degree requires a minimum of sixty credits of graduate course work, completed in accordance with the regulations of the Graduate School (p. 12) and the School of Social Work. 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 micro, mezzo and macro practice experiences.

SW 7055	Foundation Group Theory and Practice	3
SW 7065	Foundation Macro Theory and Practice	3
SW 7560	Human Behavior in the Social Environment I: Micro Theory	3
SW 7660	Human Behavior in the Social Environment II: Diversity in a Multicultural Society	3
SW 7720	Introduction to Social Welfare Policy in the United States	3
SW 7820	Research Methods in Social Work I	3
SW 7830	Research Methods in Social Work II	3
SW 7998	Concentration Field Work for Social Workers I	4-6
Total Credits		28-30

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. Students may waive one or more of these core courses by successfully completing a waiver exam. Successful completion of a waiver exam will signify the course is waived without graduate credit thus freeing the student to take other courses to meet degree requirements.

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.

Students must meet the requirements for a concentration:

1. satisfactory completion of specific concentration courses in HBSE/Practice Methods;
2. satisfactory completion of a field education placement in the concentration for each of the semesters of the advanced curriculum.

OPTION I: 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.

Integrative HBSE/Practice Methods courses (see advisor)	8	
SW 8770	Advanced Policy Analysis	3
SW 8998	Concentration Field Work for Social Workers II	4-6
Additional Electives		13
Total Credits		28-30

OPTION II: 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.

Integrative HBSE/Practice Methods courses (see advisor)	4	
Research Courses		3
SW 8998	Concentration Field Work for Social Workers II	4-6
Additional Electives		17
Total Credits		28-30

Social Work (Ph.D.)

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 (p. 17) and the School of Social Work. 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 on the School's website (<http://www.socialwork.wayne.edu>).
8. **Academic Scholarship:** Applicants should submit a Summary of Relevant Research and Professional Experience form (available online (<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.

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 SW 9991, SW 9992, SW 9993 and SW 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 (p. 12) governing graduate scholarship and degrees.

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

SW 9210	Theories for Practice and Research with Individuals	3
SW 9220	Theories for Practice and Research with Groups and Families	3
SW 9230	Theories for Practice and Research with Communities and Organizations	3

Research and Statistics Courses

SW 9100	Social Statistics and Data Analysis	3
SW 9300	Applied Regression Analysis and Generalized Linear Models	3
SW 9400	Qualitative Research Methods in Social Work	3
SW 9410	Quantitative Research Methods in Social Work	3
SW 9420	Research Practicum	3
SW 9430	Dissertation Seminar	1

Clinical Scholarship Track Courses

SW 9500	Advanced Clinical Social Work Theory	3
SW 9510	Applied Clinical Social Work Practice I	3
SW 9520	Applied Clinical Social Work Practice II	3
SW 9550	Advanced Clinical Practicum I	2
SW 9560	Advanced Clinical Practicum II	2

Social Work Elective

Select one of the following:		3
SW 9000	Directed Study: Doctoral (Max. 6)	
SW 9240	Social Work Education	

Cognate Courses

Courses other than Social Work that support the candidate's area of research	8
Total Credits	49

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 (SW 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 & Anthropology (SWAN Ph.D.)

Students can apply to earn a doctorate in Social Work and Anthropology (SWAN). The joint Social Work/Anthropology Ph.D. program draws on the strengths of both fields in theory, social history, research, policy and practice. The SWAN program combines the approaches of each field to make use of its urban location to foster scholarship focusing on global issues of 21st century post-industrial cities and how these cities are being re-invented. Students will receive a thorough grounding in the theoretical and applied aspects of both Social Work and Anthropology and will apply this knowledge to pursue scholarship in areas of interest focusing on urbanism, internationalism, and social/cultural organization. SWAN students follow a curriculum that draws from existing courses in each field with the addition of one new core course that fully integrates the two disciplines. Specific new content combining the perspectives of both disciplines is included in the MA/MSW level practica, the qualifying exam requirements, and dissertation research to meet the educational requirements of this degree.

This program prepares scholars for work in several different occupations. Graduates are qualified for faculty positions in social work or anthropology. In addition, they are highly qualified for positions in governmental or non-profit agencies that work in urban or international development.

Academic Scholarship: All course work completed to satisfy the following degree requirements must be done in accordance with the academic regulations (p. 12) of the Graduate School. 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.

Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (p. 17). 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, applicants must apply for admission to either the Social Work or Anthropology Ph.D. program and then request admission to the SWAN program. They must meet the admissions standards of the Graduate School and the SWAN program. Students who do not possess an MSW must also apply to the MSW program after alerting the SW doctoral chair of their application to the SWAN program. All application and admissions materials must be submitted to the Office of Graduate Admissions by January 15 to begin in the Fall semester.

The Plan of Work must be submitted before forty credits have been completed and before the qualifying examination is scheduled.

The Doctor of Philosophy requires ninety credits beyond the baccalaureate degree, thirty of which must be earned as dissertation credit.

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. Students who do not enter with program with an MSW will need to complete all of the courses below.

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, ANT 9992, ANT 9993, and ANT 9994) through the Graduate Office and must fulfill 7.5 credits in these courses each semester for four consecutive semesters (excluding spring-summer). All course work completed to satisfy the following degree requirements must be done in accordance with the regulations of the Graduate School (p. 12), the College of Liberal Arts and Sciences (p. 178), and the School of Social Work (p. 295).

Coursework: The following courses, or their equivalents, must be completed by students without an MSW:

Code	Title	Credits
Social Work - Practice/Policy Courses (Foundation)		
SW 7040	Methods of Social Work Practice	3
SW 7998	Concentration Field Work for Social Workers I (Max. 12)	4-6
SW 7055	Foundation Group Theory and Practice	3
SW 7065	Foundation Macro Theory and Practice	3
SW 7720	Introduction to Social Welfare Policy in the United States	3
Social Work - Practice Courses (Community Concentration)		
SW 8048	Social Action Research and Evaluation	3
SW 8035	Techniques of Quantitative Data Analysis	1
SW 8045	Techniques of Data Interpretation and Presentation	1
SW 8075	Theories and Practice of Community Building and Development	4
Total Credits		25-27

Coursework: The following courses, or their equivalents, must be completed by ALL students:

Code	Title	Credits
Social Work - Research/Theory		
SW 9100	Social Statistics and Data Analysis	3
SW 9210	Theories for Practice and Research with Individuals	3
SW 9220	Theories for Practice and Research with Groups and Families	3
SW 9230	Theories for Practice and Research with Communities and Organizations	3
SW 9300	Applied Regression Analysis and Generalized Linear Models	3
SW 9410	Quantitative Research Methods in Social Work	3
Anthropology - Research/Theory		
ANT 5060	Urban Anthropology	3
ANT 5140	Biology and Culture	3

ANT 5320	Language and Societies	3
ANT 5700	Applied Anthropology	3
ANT 7010	Anthropological Theory I	3
ANT 7020	Anthropological Theory II	3
ANT 7200	Qualitative Research I	3
ANT 7210	Qualitative Research II	3
ANT 7780	Conceptualizing the Dissertation	3
Two ANT electives in the student's research area		
SWAN - Theory		
SW 9697	Integrative Seminar in Social Work and Anthropology	3
Total Credits		48

Qualifying Exams: The SWAN steering committee will design and administer the SWAN qualifying examinations so that students can demonstrate the breadth, depth and mastery of their theoretical and empirical knowledge related to social work and anthropology theory, research methods and data analysis approaches as well as their substantive domain of knowledge. Students will demonstrate this knowledge through a written examination consisting of four sections:

1. statistics,
2. culture area,
3. research methods, and
4. a substantive paper demonstrating students' application of social science theory and SWAN knowledge to their intended research domain.

The statistics exam will be an in-school, open book exam developed by faculty teaching the required statistics courses. For the take home theory, topic area and substantive paper components, students will, in consultation with their academic advisers, select a three-person examination committee consisting of social work and anthropology faculty. These examination committee members will meet with students to develop reading lists and questions that students will then address in written take-home exams.

Students who fail one or more sections of the qualifying examination will be expected to retake only those sections that they failed. Students who fail one or more sections of the examination for a second time will be dismissed from the program.

Foreign Language Requirement: Students doing SWAN research fieldwork in non-English speaking settings will be expected to have 3 semesters of a foreign language or demonstrate fluency in their field language. These students need to take classes to complete the Anthropology Foreign Language requirement (3 semesters of the same foreign language at the undergraduate level; language credits do not count towards the 90 credits needed for a Ph.D.).

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 this doctoral program is available on the SWAN (<http://clas.wayne.edu/swan>) website. Students should also consult the Graduate School's general requirements for doctoral degrees (p. 35).

Social Work & Gerontology (Ph.D. Dual-Title)

The school offers a Dual-Title Degree in Gerontology. Gerontology is a multi-disciplinary field that integrates theory, practice knowledge, and research methodology to benefit older adults. Gerontologists trained at the Ph.D. level have the opportunity to play a key role in developing gerontological practices and in training new generations of practitioners and researchers in the field. The dual-title degree requires coursework in addition to the conventional social work doctoral program. Twelve credits are required for the dual-title that focuses on gerontological content in lieu of a cognate.

Required coursework

SW 7995	Introduction to Gerontology	3
SW 9420	Research Practicum	3

Additional courses

Select two of the following:		
FPH 7370	Health, Disease, and Aging	6
NUR 7415	Physical and Psychosocial Issues in Aging	
SOC 7020	End-of-Life Issues	
Total Credits		12

Faculty with gerontological expertise from the School of Social Work and other university schools and colleges will serve as mentors for students in the program. Students are also required to incorporate gerontological content into the research practicum and the substantive comprehensive exam. They are also expected to make gerontological content a substantial component of their dissertation and to include a gerontology faculty member on their dissertation committee.

Social Work & Infant Mental Health (M.S.W. or Ph.D. Dual-Title)

Students in the master's or Ph.D. 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 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 Requirements

Applicants must meet the admissions standards of the Graduate School and the School of Social Work. 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.

Social Work and Infant Mental Health (M.S.W. Dual-Title)

Students are required to complete 12-14 credits of IMH coursework in addition to the M.S.W. (p. 297) All students must complete and earn a 'B' or above in the following courses:

ELE 7025		2
NUR 7880	Infant/Family Mental Health Assessment	2
PSY 7425	Psychology of Infant Behavior and Development	3
PSY 7430	Developmental Assessment of Infants and Toddlers	3
SW 7010	Infant Mental Health Practice	2
SW 8883	Infant Mental Health Seminar I	1
Total Credits		13

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.

Social Work and Infant Mental Health (Ph.D. Dual-Title)

The dual-title degree requires coursework additional to the conventional social work doctoral program (p. 299): 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 Certificate Programs

- Alcohol and Drug Abuse Studies (Graduate Certificate) (p. 302)
- Disabilities (Graduate Certificate) (p. 303)
- Gerontology (Graduate Certificate) (p. 303)
- Social Welfare Research and Evaluation (Graduate Certificate) (p. 304)
- Social Work Practice with Families and Couples (Graduate Certificate) (p. 304)

Alcohol and Drug Abuse Studies (Graduate Certificate)

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 Requirements

Applicants must meet the admissions standards of the Graduate School (p. 17) and the School of Social Work. **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 or by calling 313-577-4409.

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 (at least two) 6

Offered all three terms. At least two of these need to be completed sequentially

HE 5440	Mental Health and Substance Abuse	
SW 5720	Social Services for Older Adults (Online Course)	
SW 6540	Effects of Drugs and Alcohol on Physical and Social Functioning	

Required Courses

Offered only in the Fall Term

PHC 6500	Drugs and the Addictive Process	3
SW 8690	Interpersonal Practice in Substance Abuse	3

Total Credits 12

Disabilities (Graduate Certificate)

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 (p. 24) 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 Requirements

Applicants must meet the admissions standards of the Graduate School (p. 17) and the School of Social Work. 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.

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 (p. 12) governing graduate scholarship and degrees.

Required Certificate Curriculum

SW 6700	Disabilities in Urban Society: Special Topics	3
SW 6740	Seminar in Disability Studies: Directed Study	3
SW 6750	Practicum in Disabilities: Research Topics	4
Additional electives		5
Total Credits		15

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.

Gerontology (Graduate Certificate)

The Graduate Certificate Program in Gerontology is designed to prepare graduate students and professional practitioners with graduate degrees to work in a variety of aging-related settings. 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. The field of gerontology applies this knowledge to increase the understanding of aging and older adults and to meet the needs of the rapidly growing aging population. The gerontology field focuses on the needs and challenges of community dwelling older adults as well as on elders living in long-term care settings. Adding the gerontology certificate to existing educational and work experiences is likely to enhance an individual's career opportunities and options.

Admission Requirements

Applicants must meet the admissions standards of the Graduate School (p. 17) and the School of Social Work. 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.

Candidates must successfully complete twelve credits of approved courses for the gerontology graduate certificate. Coursework consists of one core course, the Introduction to Gerontology (SW 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 (p. 12) governing graduate scholarship and degrees, respectively.

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	12
Category I: Seminar in Gerontology (Required)	
SW 7995 Introduction to Gerontology (ONLINE COURSE)	
Category II: The Aging Individual: Psychological Aspects, Human Development and Expression	
ENG 5480 Topics in African American Literature	
SOC 7020/5020/ NUR 7515/ ANT 7430	
Category III: Aging in the Social, Political and Economic Context	
SOC 5760 Society and Aging	
SW 5720 Social Services for Older Adults	
Category IV: Aging Health, Biology, and Physiology	
BIO 7750 Biology of Aging	
ECE 6100/ BME 6500	
FPH 7240 Epidemiology	
FPH 7370 Health, Disease, and Aging	
NUR 7415 Physical and Psychosocial Issues in Aging	
Total Credits	12

Social Welfare Research and Evaluation (Graduate Certificate)

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 Requirements

Applicants must meet the admissions standards of the Graduate School (p. 17) and the School of Social Work. 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.

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 (p. 12) governing graduate scholarship and degrees, respectively.

Required Courses

Three credits of theory for practice and research:	3
SW 9230 Theories for Practice and Research with Communities and Organizations	
Six credits of statistics:	6
SW 9100 Social Statistics and Data Analysis	
SW 9300 Applied Regression Analysis and Generalized Linear Models	
Six credits of research methods in social work, with specific content and training related to evidence-based practice research:	6
SW 9400 Qualitative Research Methods in Social Work	
SW 9410 Quantitative Research Methods in Social Work	
Three credits of a social work applied research practicum with specific content and training related to evidence-based practice research	3
SW 9420 Research Practicum	
Total Credits	18

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.

Social Work Practice with Families and Couples (Graduate Certificate)

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 Requirements

Applicants must meet the admissions standards of the Graduate School (p. 17) and the School of Social Work. 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. program¹. 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.

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.

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 (p. 12) and the School of Social Work.

Theory Courses

SW 8380	Application of Family Systems Theory to Interpersonal Practice I	4
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SW 8550	Social Functioning: Human Sexuality	2
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Practice Courses

SW 8390	Application of Family Systems Theory to Interpersonal Practice II	4
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SW 8620	Interpersonal Practice with Couples	2
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Ethics Course

SW 8710	Ethical Issues in Interpersonal Practice	2
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Total Credits		14
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Field Education

The following agencies are representative of those who have worked with members of the Faculty in field instruction during recent academic years:

ACCESS

ADULT WELL-BEING SERVICES

AFFIRMATIONS

ALGONAC COMMUNITY SCHOOLS

ALTERNATIVES FOR GIRLS

ALZHEIMER SOCIETY OF WINDSOR & ESSEX COUNTY

ALZHEIMER'S ASSOCIATION - GREATER MICHIGAN CHAPTER

AMERICAN RED CROSS

ANCHOR BAY SCHOOL DISTRICT

ANGELA HOSPICE

ANN ARBOR CENTER FOR INDEPENDENT LIVING

ARAB-AMERICAN AND CHALDEAN COUNCIL

ARC SERVICES OF MACOMB, INC.

BARBARA ANN KARMANOS CANCER INSTITUTE

BAY ARENAC BEHAVIORAL HEALTH

BEHAVIORAL CENTER OF AMERICA - STONE CREST CTR.

BEHAVIORAL CENTER OF MICHIGAN

BERKLEY SCHOOL DISTRICT

BETHANY CHRISTIAN SERVICES

BETHANY VILLA SENIOR APARTMENTS

BIG BROTHERS BIG SISTERS WASHTENAW

BLACK FAMILY DEVELOPMENT, INC.

BLUE CROSS BLUE SHIELD OF MICHIGAN

BLUE WATER CENTER FOR INDEPENDENT LIVING

BRIDGING COMMUNITIES INC.

BULIMIA ANOREXIA NERVOSA ASSOCIATION

C.A.R.E.

CANADIAN MENTAL HEALTH ASSOCIATION

CAPUCHIN SOUP KITCHEN

CARE HOUSE MACOMB

CARE HOUSE OF OAKLAND COUNTY

CARE MATTERS

CAREFIRST COMMUNITY HEALTH SERVICES

CATHOLIC CHARITIES OF SOUTHEASTERN MICHIGAN

CATHOLIC SERVICES OF MACOMB

CATHOLIC SOCIAL SERVICES

CEI COMMUNITY MENTAL HEALTH CENTER FOR EXCEPTIONAL FAMILIES

CENTER FOR SOCIAL WORK RESEARCH

CHALDEAN AMERICAN LADIES OF CHARITY

CHILDREN'S CENTER

CHILDREN'S HOSPITAL OF MICHIGAN

CHIPPEWA VALLEY SCHOOLS

CHRIST CHILD HOUSE

CITY CONNECT DETROIT INC.

CITY OF SOUTHFIELD-OLDER ADULT SOCIAL WORKER

CLARKSTON COMMUNITY SCHOOLS

COMMON GROUND SANCTUARY

COMMUNITY AND HOME SUPPORTS, INC.

COMMUNITY CARE SERVICES

COMMUNITY HOUSING NETWORK, INC.

COMMUNITY LIVING SERVICES

COMMUNITY PROGRAMS, INC.

COMPREHENSIVE YOUTH SERVICES, INC.

CONSUMER SERVICES, INC. CORNELL CENTER

COVENANT HOUSE MICHIGAN

CROSSROADS FOR YOUTH

CROSSROADS OF MICHIGAN

DADS AND MOMS OF MICHIGAN

DEARBORN PUBLIC SCHOOLS

DEPARTMENT OF HEALTH AND HUMAN SERVICES

DEPARTMENT OF VETERANS AFFAIRS

DETROIT AREA AGENCY ON AGING

DETROIT BOARD OF EDUCATION

DETROIT CENTRAL CITY CMH, INC.

DETROIT CITY COUNCIL

DETROIT EAST COMMUNITY MENTAL HEALTH

DETROIT RECOVERY PROJECT

DETROIT RESCUE MISSION MINISTRIES

DETROIT WAYNE MENTAL HEALTH AUTHORITY

DEVELOPMENT CENTERS, INC.

DMC-HARPER HOSPITAL

DOCTORS' HOSPITAL OF MICHIGAN

DON BOSCO HALL

EAST CHINA SCHOOL DISTRICT

EASTER SEALS

EASTWOOD CLINIC, ST. JOHN

EMPOWERED LIVING HUMAN SERVICES

ENNIS CENTER FOR CHILDREN

EQUALITY MICHIGAN

ESSEX COUNTY DIVERSION PROGRAM

FAMILY CARE NETWORK

FAMILY SERVICE, INC.

FARMINGTON PUBLIC SCHOOLS

FIRST STEP

FISCHER AND CARDAMONE, LLC

FOREVER FAMILIES

FOX RUN VILLAGE

FRASER PUBLIC SCHOOLS

GENESEE HEALTH SYSTEM

GILDA'S CLUB METRO DETROIT

GENESEE HEALTH SYSTEM

GRANDMONT ROSEDALE DEVELOPMENT CORP.

GROSSE POINTE PUBLIC SCHOOLS

GUIDANCE CENTER

HANDS ACROSS THE WATER

HARBOR OAKS HOSPITAL

HARPER WOODS PUBLIC SCHOOLS

HAVENWYCK HOSPITAL

HAWTHORN CENTER

HAZEL PARK SCHOOLS

HEARTLAND HEALTHCARE CENTER

HEARTLAND HOSPICE

HEGIRA PROGRAMS, INC.

HENRY FORD HEALTH SYSTEM

HENRY FORD WYANDOTTE HOSPITAL

HIGHLAND PARK RENAISSANCE ACADEMY

HOMELESS ACTION NETWORK DETROIT - HAND

HOTEL DIEU GRACE HOSPITAL

HURON VALLEY-SINAI HOSPITAL

INNER DOOR CENTER

INTEGRATIVE COUNSELING SERVICES

JEWISH FAMILY SERVICE

JEWISH SENIOR LIFE OF METROPOLITAN DETROIT

JOHN D. DINGELL VA MEDICAL CENTER

JUDSON CENTER AUTISM CONNECTIONS

JUDSON CENTER, INC.

JVS SENIOR ADULT SERVICES

KADIMA

LA CASA

LAKERIDGE VILLAGE

LIGHTHOUSE PATH TEEN MOTHERS PROGRAM

LINCOLN BEHAVIORAL SERVICES

LIVINGSTON FAMILY CENTER

LORING THERAPY

LUELLA HANNAN FOUNDATION

LUTHERAN SOCIAL SERVICES OF MICHIGAN

MACOMB COUNTY COMMUNITY SERVICE AGENCY

MACOMB FAMILY SERVICES

MACOMB INTERMEDIATE SCHOOL DISTRICT

MARINER'S INN

MATRIX HUMAN SERVICES	SOUTH OAKLAND CITIZENS FOR THE HOMELESS
MCLAREN REGIONAL MEDICAL CENTER	SOUTHWEST COUNSELING SOLUTIONS
MEDICAL SOCIAL WORK REHAB MANAGEMENT LLC	SPAULDING FOR CHILDREN
MELVINDALE-NORTH ALLEN PARK SCHOOL DISTRICT	SPECTRUM CHILD AND FAMILY SERVICES
MICHIGAN ROUNDTABLE FOR DIVERSITY	ST. CLAIR COUNTY COMMUNITY MENTAL HEALTH AUTHORITY
MONROE CO. INTERMEDIATE SCHOOL DISTRICT	ST. JOHN COMMUNITY HEALTH
NATIONAL COUNCIL OF ALCOHOLISM AND DRUG DEPENDENCE	ST. JOHN MACOMB OAKLAND HOSPITAL
NATIONAL KIDNEY FOUNDATION OF MICHIGAN	ST. JOSEPH MERCY OAKLAND HOSPITAL
NEIGHBORHOOD SERVICE ORGANIZATION	ST. JOHN PROVIDENCE HOSPITAL
NEW CENTER COMMUNITY MENTAL HEALTH SERVICES	STARFISH FAMILY SERVICES
NEW HAVEN COMMUNITY SCHOOLS	STARR COMMONWEALTH
NEW FRONTIER COUNSELING SERVICES	STATE COURT ADMINISTRATIVE OFFICE
NORTHEAST GUIDANCE CENTER	TAYLOR SCHOOL DISTRICT
OAKLAND COUNTY CHILDREN'S VILLAGE	TEAM MENTAL HEALTH SERVICES
OAKLAND FAMILY SERVICES	TEEN HEALTH CENTRE
OAKLAND LIVINGSTON HUMAN SERVICE AGENCY	THIRD JUDICIAL CIRCUIT COURT
OAKWOOD HOSPITAL	TRAINING AND TREATMENT INNOVATIONS, INC.
OAKWOOD SOUTHSORE MEDICAL CENTER	TRANSPORTATION RIDERS UNITED, INC.
ODYESSY HOUSE	TROY SCHOOL DISTRICT
ORCHARDS CHILDREN'S SERVICES	TURNING POINT INC.
OZONE HOUSE	TUSCOLA INTERMEDIATE SCHOOL DISTRICT
PONTIAC SCHOOL DISTRICT	UNITED WAY FOR SOUTHEASTERN MICHIGAN
PORT HURON HOSPITAL	UNITED WAY/CENTRAIDE WINDSOR - ESSEX COUNTY
POSITIVE IMAGES	UNIVERSITY PSYCHIATRIC CENTERS
PROVIDENCE CANCER INSTITUTE	URBAN NEIGHBORHOOD INITIATIVES
REDFORD UNION SCHOOLS	UTICA COMMUNITY SCHOOLS
RICHMOND COMMUNITY SCHOOLS	VAN DYKE PUBLIC SCHOOLS
RUTH ELLIS CENTER	VAN ELSLANDER CANCER CENTER
SACRED HEART REHABILITATION	VICTIM'S ASSISTANCE CENTER
SAGINAW CHIPPEWA TRIBE	VISTA MARIA
SAGINAW COUNTY CMH	WARREN WOODS PUBLIC SCHOOLS
SAGINAW PSYCHOLOGICAL SERVICES	WASHTENAW COUNTY C.S.T.S.
SANILAC COUNTY INTERMEDIATE SCHOOL DISTRICT	WASHTENAW COUNTY SHERIFF'S OFFICE
SERVICES FOR OLDER CITIZENS	WASHTENAW LITERACY
SHAR, INC.	WATERFORD SCHOOL DISTRICT
SINAI-GRACE HOSPITAL	WAYNE CENTER
SOS COMMUNITY SERVICES	WAYNE COUNTY PROSECUTOR'S OFFICE

WAYNE METRO COMMUNITY ACTION AGENCY
WAYNE-WESTLAND COMMUNITY SCHOOL DISTRICT
WHALEY CHILDREN'S CENTER
WHOLISTIC LIVING COMMUNITY DEVELOPMENT
WILLIAM BEAUMONT HOSPITAL
WINDSOR ESSEX CHILDREN'S AID SOCIETY
WOLVERINE HUMAN SERVICES
WOMEN'S CENTER OF SOUTHEASTERN MICHIGAN
WSU - CENTER FOR LATINO AND LATIN AMERICAN STUDIES
WSU - DMC HIV/AIDS PROGRAM
WSU - FOSTER CARE AND HIGHER EDUCATION TRANSITION TO INDEPENDENCE PROGRAM
WSU - LEGAL ADVOCACY FOR PEOPLE WITH CANCER CLINIC
YMCA OF METRO DETROIT
YWCA INTERIM HOUSE

School of Social Work Faculty

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WEISZ, ARLENE A.: Ph.D., M.S.W., University of Illinois at Chicago; B.A., University of Michigan; Professor

PROGRAMS A-Z

- #
- A (p. 309)
- B (p. 310)
- C (p. 310)
- D (p. 311)
- E (p. 311)
- F (p. 311)
- G (p. 312)
- H (p. 312)
- I (p. 312)
- J (p. 312)
- K (p. 313)
- L (p. 313)
- M (p. 313)
- N (p. 314)
- O (p. 314)
- P (p. 314)
- Q
- R (p. 315)
- S (p. 315)
- T (p. 315)
- U (p. 315)
- V
- W (p. 315)
- X
- Y
- Z

A

- Accounting (M.S.A.) (p. 70)
- Accounting (Post-Bachelor's Certificate) (p. 71)
- Accounting B.A. (<http://bulletins.wayne.edu/undergraduate/school-business/accounting/accounting-ba>)
- Accounting B.S. (<http://bulletins.wayne.edu/undergraduate/school-business/accounting/accounting-bs>)
- Accounting Post-Bachelor's Certificate (<http://bulletins.wayne.edu/undergraduate/school-business/accounting/accounting-post-bachelors-certificate>)
- Adapted Physical Education (Teaching Endorsement) (p. 94)
- Adapted Physical Education Endorsement (<http://bulletins.wayne.edu/undergraduate/college-education/kinesiology-health-sport-studies/physical-education-adapted-endorsement>)
- Administration and Supervision (Education Specialist Certificate) (p. 88)
- Adult Gerontology Nurse Practitioner Acute Care (Graduate Certificate) (p. 269)
- Advanced Energy Storage Systems (Certificate) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/energy-storage-systems-advanced-certificate>)
- Advanced Studies in School Psychology (Graduate Certificate) (p. 112)
- African American Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/african-american-studies/african-american-studies-ba>)
- African American Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/african-american-studies/african-american-studies-minor>)
- Africana Theatre and Dance Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/africana-theatre-dance-minor>)
- Alcohol and Drug Abuse Studies (Graduate Certificate) (p. 302)
- Alternative Energy Technology (Graduate Certificate) (p. 134)
- Alternative Energy Technology (M.S.) (p. 134)
- Anatomy and Cell Biology (M.S. and Ph.D.) (p. 243)
- Ancient Greek and Latin Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/greek-ancient-latin-minor>)
- Ancient Greek Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/greek-ancient-minor>)
- Anesthesia (M.S.) (p. 277)
- Anthropology (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/anthropology/anthropology-ba>)
- Anthropology (M.A.) (p. 180)
- Anthropology (Ph.D.) (p. 181)
- Anthropology Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/anthropology/anthropology-minor>)
- Applied Behavior Analysis (Graduate Certificate) (p. 112)
- Applied Behavior Analysis (Undergraduate Certificate) (<http://bulletins.wayne.edu/undergraduate/college-education/theoretical-behavioral-foundations/applied-behavior-analysis-undergraduate-certificate>)
- Applied Mathematics (M.A.) (p. 202)
- Arabic Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/arabic-minor>)
- Archival Administration (Graduate Certificate) (p. 226)
- Art (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/art-ba>)
- Art (M.A.) (p. 138)
- Art (M.F.A.) (p. 138)
- Art Education (M.Ed.) (p. 99)
- Art Education, Visual (Post-Baccalaureate Certificate) (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/art-education-visual-post-baccalaureate-certificate>)
- Art History (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/art-history-ba>)
- Art History (M.A.) (p. 138)
- Art History Minors (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/art-history-minor>)
- Art Minors (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/art-minor>)
- Arts Administration (M.A.) (p. 148)
- Asian Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/asian-studies-ba>)
- Asian Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/asian-studies-minor>)
- Astronomy (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/physics-astronomy/astronomy-ba>)
- Audiology (Au.D.) (p. 191)

B

- Bachelor of Arts in Education - Elementary Education (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/ba-education-elementary-education->)
- Bachelor of Arts in Education - Secondary Education (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/ba-education-secondary-education>)
- Bachelor of Arts in Education - Special Education (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/ba-education-special-education>)
- Bachelor of Science in Education - Elementary Education (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/bs-education-elementary-education>)
- Bachelor of Science in Education - Secondary Education (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/bs-education-secondary-education>)
- Bachelor of Science in Education - Special Education (<http://bulletins.wayne.edu/undergraduate/college-education/teacher-education/bs-education-special-education>)
- Basic Medical Sciences (M.S.) (p. 244)
- Bilingual Education (Bridge Graduate Certificate) (p. 100)
- Biochemistry and Chemical Biology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/chemistry/biochemistry-chemical-biology-bs>)
- Biochemistry and Molecular Biology (M.S.) (p. 245)
- Biochemistry and Molecular Biology (Ph.D.) (p. 245)
- Biological Sciences (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/biological-sciences/biological-science-ba>)
- Biological Sciences (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/biological-sciences/biological-sciences-bs>)
- Biological Sciences (M.A.) (p. 184)
- Biological Sciences (M.S.) (p. 184)
- Biological Sciences (Ph.D.) (p. 184)
- Biological Sciences Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/biological-sciences/biological-sciences-minor>)
- Biomedical Engineering (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/biomedical-engineering/biomedical-engineering-bs>)
- Biomedical Engineering (M.S.) (p. 120)
- Biomedical Engineering (Ph.D.) (p. 121)
- Biomedical Imaging (dual-title program) (p. 122)
- Biomedical Physics (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/physics-astronomy/biomedical-physics-bs>)
- Biomedical Physics Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/physics-astronomy/biomedical-physics-minor>)
- Business (Graduate Certificate) (p. 72)
- Business Administration (M.B.A. Program) (p. 72)
- Business Administration (Ph.D.) (p. 76)
- Business Administration and Law (M.B.A./J.D. Joint Degree) (p. 77)
- Chemical Engineering (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/chemical-engineering-materials-science/chemical-engineering-bs>)
- Chemical Engineering (M.S.) (p. 123)
- Chemical Engineering (Ph.D.) (p. 123)
- Chemistry (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/chemistry/chemistry-ba>)
- Chemistry (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/chemistry/chemistry-bs>)
- Chemistry (M.A. Program) (p. 185)
- Chemistry (M.S. Program) (p. 186)
- Chemistry (Ph.D. Program) (p. 186)
- Chemistry Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/chemistry/chemistry-minor>)
- Civil Engineering (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/civil-environmental-engineering/civil-engineering-bs>)
- Civil Engineering (M.S.) (p. 124)
- Civil Engineering (Ph.D.) (p. 125)
- Classical Civilization Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/classical-civilization-minor>)
- Classics (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/classics-ba>)
- Classics (M.A.) (p. 187)
- Clinical and Translational Science (Bridge Graduate Certificate) (p. 246)
- Clinical Laboratory Science (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/clinical-laboratory-science/clinical-laboratory-science-bs>)
- College and University Teaching (Graduate Certificate) (p. 89)
- Communication (M.A.) (p. 139)
- Communication (Ph.D.) (p. 142)
- Communication and New Media (Graduate Certificate) (p. 143)
- Communication Sciences and Disorders (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/communication-sciences-disorders/communication-sciences-disorders-ba>)
- Communication Sciences and Disorders (Ph.D.) (p. 191)
- Communication Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/communication-studies-ba>)
- Communication Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/communication-studies-minor>)
- Complementary Therapies in Healthcare (Graduate Certificate) (p. 269)
- Computer Engineering (M.S.) (p. 128)
- Computer Engineering (Ph.D.) (p. 128)
- Computer Science (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/computer-science/computer-science-bs>)
- Computer Science (M.S.) (p. 125)
- Computer Science (Ph.D.) (p. 126)
- Computer Science Minor (<http://bulletins.wayne.edu/undergraduate/college-engineering/computer-science/computer-science-minor>)
- Computer Technology (B.S.C.T.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/computer-technology-bsct>)

C

- Cancer Biology (M.S. and Ph.D.) (p. 250)
- Career and Technical Education (M.Ed.) (p. 100)

- Construction Management (B.S.C.M.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/construction-management-bscm>)
- Control Systems (Certificate) (<http://bulletins.wayne.edu/undergraduate/college-engineering/electrical-computer-engineering/control-systems-certificate>)
- Counseling (Education Specialist Certificate) (p. 113)
- Counseling (M.A.) (p. 113)
- Counseling (M.Ed.) (p. 113)
- Counseling Education (Ed.D. and Ph.D.) (p. 113)
- Counseling Psychology (M.A.) (p. 114)
- Criminal Justice (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/criminal-justice/criminal-justice-bs>)
- Criminal Justice (J.D./M.S. Joint Degree) (p. 193)
- Criminal Justice (M.S.) (p. 192)
- Curriculum and Instruction (Ph.D. and Ed.D.) (p. 100)

D

- Dance (B.F.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/dance-bfa>)
- Dance (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/dance-bs>)
- Dance Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/dance-minor>)
- Design and Merchandising (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/design-merchandising-ba>)
- Design and Merchandising (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/design-merchandising-bs>)
- Dietetics (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/nutrition-food-science/dietetics-bs>)
- Dietetics (Post-Bachelor Certificate) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/nutrition-food-science/dietetics-post-bachelor-certificate>)
- Dietetics (Post-Bachelor Certificate) (p. 207)
- Disabilities (Graduate Certificate) (p. 303)
- Dispute Resolution (Graduate Certificate) (p. 143)
- Dispute Resolution (M.A./J.D.) (p. 143)
- Dispute Resolution (M.A.D.R.) (p. 144)

E

- Early Childhood Education, Infant Mental Health Dual-Title (Ph.D. Program) (p. 101)
- Economic Development (Graduate Certificate) (p. 222)
- Economics (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/economics/economics-ba>)
- Economics (M.A.) (p. 193)
- Economics (Ph.D.) (p. 194)
- Economics and Law (M.A./J.D. Joint Degree) (p. 195)
- Economics Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/economics/economics-minor>)
- Education Specialist Certificate (p. 102)
- Educational Evaluation and Research (Ed.D. and Ph.D.) (p. 114)
- Educational Evaluation and Research (M.Ed.) (p. 114)
- Educational Leadership (M.Ed.) (p. 89)
- Educational Leadership and Policy Studies (Ed.D.) (p. 89)
- Educational Leadership and Policy Studies (Ph.D.) (p. 90)

- Educational Psychology (M.Ed.) (p. 114)
- Educational Psychology (Ph.D.) (p. 115)
- Educational Technology (Bridge Graduate Certificate) (p. 90)
- Educational Technology (State of Michigan Endorsement Recommendation) (p. 90)
- Electric Transportation Technology (B.S.E.T.T.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/electric-transportation-technology-bsett>)
- Electric-drive Vehicle Engineering (Graduate Certificate) (p. 135)
- Electric-drive Vehicle Engineering (M.S.) (p. 135)
- Electrical Engineering (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/electrical-computer-engineering/electrical-engineering-bs>)
- Electrical Engineering (M.S.) (p. 128)
- Electrical Engineering (Ph.D.) (p. 129)
- Electrical/Electronic Engineering Technology (B.S.E.T.E.E.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/electrical-electronic-engineering-technology-bseet>)
- Electromechanical Engineering Technology (B.S.E.T.E.M.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/electromechanical-engineering-technology-bsemt>)
- Elementary Education Major Leading K-8 Certification (M.A.T.) (p. 102)
- Employment and Labor Relations (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/employment-labor-relations/employment-labor-relations-ba>)
- Employment and Labor Relations (M.A.) (p. 195)
- Engineering Entrepreneurship (Undergraduate Certificate Program) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-entrepreneurship>)
- Engineering Management (M.S.) (p. 131)
- Engineering Technology (M.S.) (p. 129)
- English (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/english/english-ba>)
- English (M.A.) (p. 196)
- English (Ph.D.) (p. 196)
- English as a Second Language (Bridge Graduate Certificate) (p. 104)
- English Education (Secondary) (M.Ed.) (p. 104)
- English Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/english/english-minor>)
- Environmental Science (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/environmental-science/environmental-science-bs>)

F

- Film (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/film-ba>)
- Film Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/film-minor>)
- Film Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/english/film-studies-ba>)
- Film Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/english/film-studies-minor>)
- Finance B.A. (<http://bulletins.wayne.edu/undergraduate/school-business/finance/finance-ba>)
- Finance B.S. (<http://bulletins.wayne.edu/undergraduate/school-business/finance/finance-bs>)

- Fine Arts (B.F.A. with a major in Art) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/fine-arts-bfa>)
- Fine Arts (B.F.A.) with a major in Design (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/art-art-history/fine-arts-bfa-design>)
- Forensic Investigation (Post-Bachelor's Certificate) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/mortuary-science/forensic-investigation-post-bachelors-certificate>)
- French Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/french-minor>)

G

- Gender, Sexuality and Women's Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/gender-sexuality-womens-studies/gender-sexuality-womens-studies-ba>)
- Gender, Sexuality and Women's Studies Minor or Cognate Study (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/gender-sexuality-womens-studies/gender-sexuality-womens-studies-minor-cognate-study>)
- General Theatre Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/general-theatre>)
- Genetic Counseling (M.S.) (p. 246)
- Geology (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/geology/geology-ba>)
- Geology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/geology/geology-bs>)
- Geology (M.S.) (p. 197)
- Geology Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/geology/geology-minor>)
- German (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/german-ba>)
- German (M.A.) (p. 188)
- German Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/german-minor>)
- Gerontology (Graduate Certificate) (p. 303)
- Global Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/global-studies-ba>)
- Global Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/global-studies-minor>)
- Global Supply Chain Management (B.A.) (<http://bulletins.wayne.edu/undergraduate/school-business/marketing-supply-chain-management/global-supply-chain-management-ba>)
- Global Supply Chain Management (B.S.) (<http://bulletins.wayne.edu/undergraduate/school-business/marketing-supply-chain-management/global-supply-chain-management-bs>)

H

- Health Communication (Graduate Certificate) (p. 144)
- Health Education (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-education/kinesiology-health-sport-studies/health-education-bs>)

- Health Education (M.Ed.) (p. 94)
- Health Education Minor (<http://bulletins.wayne.edu/undergraduate/college-education/kinesiology-health-sport-studies/health-education-minor>)
- Health Psychology Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/psychology/health-psychology-minor>)
- Hebrew Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/hebrew-minor>)
- History (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/history/history-ba>)
- History (M.A.) (p. 198)
- History (M.A.P.H.) (p. 199)
- History (Ph.D.) (p. 199)
- History and Law (M.A./J.D. Joint Degree) (p. 200)
- History and Library and Information Sciences (M.A./M.L.I.S. Joint Degree) (p. 200)
- History Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/history/history-minor>)

I

- Immunology and Microbiology (M.S.) (p. 247)
- Immunology and Microbiology (Ph.D.) (p. 247)
- Industrial and Organizational Psychology (M.A.) (p. 216)
- Industrial Engineering (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/industrial-systems-engineering/industrial-engineering-bs>)
- Industrial Engineering (M.S.) (p. 131)
- Industrial Engineering (Ph.D.) (p. 131)
- Infant Mental Health (D.N.P. Dual-Title) (<http://bulletins.wayne.edu/graduate/college-nursing/infant-mental-health-dnp-dual-title>)
- Infant Mental Health (Ph.D. dual-title program) (p. 218)
- Information Management (Graduate Certificate) (p. 227)
- Information Systems Management (B.A.) (<http://bulletins.wayne.edu/undergraduate/school-business/management-information-systems/information-systems-management-ba>)
- Information Systems Management (B.S.) (<http://bulletins.wayne.edu/undergraduate/school-business/management-information-systems/information-systems-management-bs>)
- Information Systems Management (Post-Bachelor's Certificate Program) (<http://bulletins.wayne.edu/undergraduate/school-business/management-information-systems/information-systems-management-post-bachelors-certificate-program>)
- Information Systems Management (Post-Bachelor's Certificate) (p. 78)
- Injury Biomechanics (Bridge Graduate Certificate) (p. 122)
- Italian Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/italian-minor>)

J

- Jazz Studies Minor for Instrumental Music Education Majors (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/music/jazz-studies-minor-instrumental-music-education-majors>)
- Journalism (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/journalism-ba>)

- Journalism Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/journalism-minor>)

K

- Kinesiology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-education/kinesiology-health-sport-studies/kinesiology-bs>)
- Kinesiology (M.Ed.) (p. 95)
- Kinesiology (Ph.D.) (p. 96)

L

- Laboratory Science Concentration (B.H.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/clinical-laboratory-science/laboratory-science-concentration-bhs>)
- Language Learning (M.A.) (p. 188)
- Latin Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/latin-minor>)
- Latino/a and Latin American Studies (Co-Major) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/latinoa-latin-american-studies/latinoa-latin-american-studies-co-major>)
- Latino/a and Latin American Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/latinoa-latin-american-studies/latinoa-latin-american-studies-minor>)
- Law (J.D. Program) (p. 155)
- Law (LL.M. Program) (p. 158)
- Learning Design and Technology (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-education/administrative-organizational-studies/learning-design-technology-ba>)
- Learning Design and Technology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-education/administrative-organizational-studies/learning-design-technology-bs>)
- Learning Design and Technology (Ed.D.) (p. 90)
- Learning Design and Technology (Education Specialist Certificate) (p. 91)
- Learning Design and Technology (M.Ed.) (p. 91)
- Learning Design and Technology (Ph.D.) (p. 92)
- Learning Design and Technology Minor (<http://bulletins.wayne.edu/undergraduate/college-education/administrative-organizational-studies/learning-design-technology-minor>)
- Library and Information Science (M.L.I.S.) (p. 225)
- Library and Information Science (Specialist Certificate) (p. 228)
- Library and Information Science and History (M.A./M.L.I.S. Joint Degree) (p. 226)
- Linguistics (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/linguistics/linguistics-ba>)
- Linguistics (M.A.) (p. 201)
- Linguistics Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/linguistics/linguistics-minor>)

M

- Management (B.A.) (<http://bulletins.wayne.edu/undergraduate/school-business/management-information-systems/management-ba>)
- Management (B.S.) (<http://bulletins.wayne.edu/undergraduate/school-business/management-information-systems/management-bs>)

- Manufacturing Engineering (M.S.) (p. 132)
- Manufacturing Engineering Technology (B.S.M.A.E.T.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/manufacturing-engineering-technology-bsmft>)
- Marketing (B.A.) (<http://bulletins.wayne.edu/undergraduate/school-business/marketing-supply-chain-management/marketing-ba>)
- Marketing (B.S.) (<http://bulletins.wayne.edu/undergraduate/school-business/marketing-supply-chain-management/marketing-bs>)
- Materials Science and Engineering (M.S.) (p. 124)
- Materials Science and Engineering (Ph.D.) (p. 124)
- Mathematical Economics (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/economics/mathematical-economics-ba>)
- Mathematical Statistics (M.A.) (p. 203)
- Mathematics (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/mathematics/mathematics-ba>)
- Mathematics (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/mathematics/mathematics-bs>)
- Mathematics (M.A.) (p. 204)
- Mathematics (M.S.) (p. 205)
- Mathematics (Ph.D.) (p. 206)
- Mathematics Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/mathematics/mathematics-minor>)
- Mechanical Engineering (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/mechanical-engineering/mechanical-engineering-bs>)
- Mechanical Engineering (M.S.) (p. 133)
- Mechanical Engineering (Ph.D.) (p. 133)
- Mechanical Engineering Technology (B.S.E.T.M.E.) (<http://bulletins.wayne.edu/undergraduate/college-engineering/engineering-technology-division/mechanical-engineering-technology-bsmct>)
- Media Arts and Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/media-arts-studies-ba>)
- Media Arts and Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/media-arts-studies-minor>)
- Medical Physics (D.M.P.) (p. 251)
- Medical Physics (Graduate Certificate) (p. 252)
- Medical Physics (M.S.) (p. 252)
- Medical Physics (Ph.D.) (p. 252)
- Medical Research (M.S.) (p. 248)
- Medicine (M.D. Program) (p. 233)
- Minor in Criminal Justice (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/criminal-justice/criminal-justice-minor>)
- Modern Greek Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/greek-modern-greek-studies-minor>)
- Modern Languages (Ph.D.) (p. 190)
- Molecular Biotechnology (M.S.) (p. 184)
- Molecular Genetics and Genomics (M.S.) (p. 249)
- Molecular Genetics and Genomics (Ph.D.) (p. 249)
- Mortuary Science (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/mortuary-science/mortuary-science-bs>)
- Music (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/music/music-ba>)
- Music (B.Mus.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/music/music-bmus>)

- Music (M.A.) (p. 145)
- Music (M.Mus.) (p. 146)
- Music Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/music/music-minor>)
- Music Technology Minor for Instrumental or Vocal Music Education Majors (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/music/music-technology-minor-instrumental-vocal-music-education-majors>)
- Musical Theatre Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/musical-theatre-minor>)

N

- Nanoengineering (Undergraduate Certificate Program) (<http://bulletins.wayne.edu/undergraduate/college-engineering/nanoengineering>)
- Near Eastern Languages (M.A.) (p. 189)
- Near Eastern Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/near-eastern-studies-ba>)
- Near Eastern Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/near-eastern-studies-minor>)
- New Media Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/media-minor>)
- Nurse-Midwifery (Graduate Certificate) (p. 270)
- Nursing (B.S.N.) (<http://bulletins.wayne.edu/undergraduate/college-nursing/nursing-bsn>)
- Nursing (M.S.N. Program) (<http://bulletins.wayne.edu/graduate/college-nursing/nursing-msn>)
- Nursing Education (Graduate Certificate) (p. 270)
- Nutrition and Food Science (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-science-ba>)
- Nutrition and Food Science (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-science-bs>)
- Nutrition and Food Science (M.A.) (p. 207)
- Nutrition and Food Science (M.S.) (p. 208)
- Nutrition and Food Science (Ph.D.) (p. 209)
- Nutrition and Food Science and Public Health (M.A./M.P.H. Joint Degree) (p. 208)
- Nutrition and Food Science Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/nutrition-food-science/nutrition-food-science-minor>)

O

- Occupational Therapy (M.O.T.) (p. 279)
- Occupational Therapy Concentration (B.H.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/occupational-therapy/occupational-therapy-concentration-bhs>)
- Online Teaching (Bridge Graduate Certificate) (p. 92)
- Online Teaching (Graduate Certificate) (p. 92)
- Orchestral Studies (Graduate Certificate) (p. 148)

P

- Pathologists' Assistant (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/mortuary-science/pathologists-assistant-bs>)
- Pathologists' Assistant (M.S.) (p. 280)
- Pathology (Ph.D.) (p. 253)
- Peace and Conflict Studies (Co-Major) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/peace-conflict-studies/peace-conflict-studies-co-major>)
- Peace and Conflict Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/peace-conflict-studies/peace-conflict-studies-minor>)
- Peace and Security Studies (Graduate Certificate) (p. 209)
- Pediatric Anesthesia (Graduate Certificate) (p. 278)
- Pediatric Nurse Practitioner Acute Care (Graduate Certificate) (p. 270)
- Pediatric Nurse Practitioner Primary Care (Graduate Certificate) (p. 271)
- Pharmaceutical Sciences (M.S.) (p. 282)
- Pharmaceutical Sciences (Ph.D.) (p. 283)
- Pharmaceutical Sciences Concentration (B.H.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/pharmaceutical-sciences/pharmaceutical-sciences-concentration-bhs>)
- Pharmacology (M.S. and Ph.D.) (p. 254)
- Pharmacy (Pharm.D. Research Scholars) (p. 287)
- Pharmacy (Pharm.D.) (p. 284)
- Philosophy (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/philosophy/philosophy-ba>)
- Philosophy (M.A.) (p. 210)
- Philosophy (Ph.D.) (p. 211)
- Philosophy Minors (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/philosophy/philosophy-minor>)
- Physical Education and Physical Activity Leadership Elementary Minor (Grades K-5) (<http://bulletins.wayne.edu/undergraduate/college-education/kinesiology-health-sport-studies/physical-education-and-physical-activity-leadership-elementary-minor-grades-k-5>)
- Physical Education and Physical Activity Leadership Secondary Minor (Grades 6-12) (<http://bulletins.wayne.edu/undergraduate/college-education/kinesiology-health-sport-studies/physical-education-and-physical-activity-leadership-secondary-minor-grades-6-12>)
- Physical Education Pedagogy (M.A.T.) (p. 104)
- Physical Therapy (D.P.T.) (p. 290)
- Physical Therapy Concentration (B.H.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/physical-therapy/physical-therapy-concentration-bhs>)
- Physician Assistant Studies (M.S.) (p. 292)
- Physics (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/physics-astronomy/physics-ba>)
- Physics (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/physics-astronomy/physics-bs>)
- Physics (M.A.) (p. 211)
- Physics (M.S.) (p. 212)
- Physics (Ph.D.) (p. 212)
- Physics Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/physics-astronomy/physics-minor>)
- Physiology (M.S. and Ph.D.) (p. 255)

- Polish Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/polish-minor>)
- Political Science (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/political-science/political-science-ba>)
- Political Science (M.A.) (p. 214)
- Political Science (Ph.D.) (p. 215)
- Political Science and Law (M.A./J.D. Joint Degree) (p. 214)
- Polymer Engineering (Graduate Certificate) (p. 124)
- Psychiatric Mental Health Nurse Practitioner (Graduate Certificate) (p. 271)
- Psychology (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/psychology/psychology-ba>)
- Psychology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/psychology/psychology-bs>)
- Psychology (M.A.) (p. 216)
- Psychology (Ph.D.) (p. 216)
- Psychology Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/psychology/psychology-minor>)
- Public Administration (M.P.A.) (p. 214)
- Public Affairs (B.P.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/political-science/public-affairs-bpa>)
- Public Health (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/public-health/public-health-bs>)
- Public Health (M.P.H.) (p. 256)
- Public Health Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/public-health/public-health-minor>)
- Public Health Practice (Graduate Certificate) (p. 257)
- Public Library Services to Children and Young Adults (Graduate Certificate) (p. 229)
- Public Relations (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/public-relations-ba>)
- Public Relations Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/communication/public-relations-minor>)
- Slavic Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/slavic-studies-ba>)
- Social Welfare Research and Evaluation (Graduate Certificate) (p. 304)
- Social Work (B.S.W. Program) (<http://bulletins.wayne.edu/undergraduate/school-social-work/social-work-bsw>)
- Social Work (M.S.W.) (p. 295)
- Social Work Practice with Families and Couples (Graduate Certificate) (p. 304)
- Social Work/Anthropology SWAN (Ph.D.) (p. 182)
- Sociology (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/sociology/sociology-ba>)
- Sociology (M.A.) (p. 218)
- Sociology (Ph.D.) (p. 219)
- Sociology Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/sociology/sociology-minor>)
- Spanish Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/spanish-minor>)
- Special Education (Ph.D. and Ed.D) (p. 109)
- Speech-Language Pathology (M.A.) (p. 191)
- Sports Administration (M.A.) (p. 96)
- Sustainable Engineering (Graduate Certificate) (p. 135)
- Systems Engineering (Bridge Graduate Certificate) (p. 132)

T

- Taxation (M.S.T. Program) (p. 78)
- Teaching and Learning (M.Ed.) (p. 109)
- Theatre (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/theatre-ba>)
- Theatre (B.F.A.) (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/theatre-bfa>)
- Theatre (M.F.A.) (p. 148)
- Theatre and Dance (M.A.) (p. 150)
- Theatre Design and Technology Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/theatre-design-technology-minor>)
- Theatre Management Minor (<http://bulletins.wayne.edu/undergraduate/college-fine-performing-communication-arts/theatre-dance/theatre-management-minor>)
- Transcultural Nursing (Graduate Certificate) (p. 271)
- Translational Neuroscience (Ph.D.) (p. 257)

U

- Undergraduate Certificate in Entrepreneurship and Innovation (<http://bulletins.wayne.edu/undergraduate/school-business/entrepreneurship>)
- Urban Planning (M.U.P.) (p. 223)
- Urban Studies (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/urban-studies-planning/urban-studies-ba>)
- Urban Studies Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/urban-studies-planning/urban-studies-minor>)

W

- Women's Health Nurse Practitioner (Graduate Certificate) (p. 272)

R

- Radiation Therapy Technology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/radiation-therapy-technology/radiation-therapy-technology-bs>)
- Radiologic Technology (B.S.) (<http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/radiologic-technology/radiologic-technology-bs>)
- Radiologist Assistant Studies (M.S.) (p. 293)
- Reading (M.Ed.) (p. 105)
- Reading, Language and Literature (Ed.D) (p. 105)
- Rehabilitation Counseling and Community Inclusion (M.A.) (p. 115)
- Romance Languages (B.A.) (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/romance-languages-ba>)
- Romance Languages (M.A.) (p. 189)
- Russian Minor (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/classical-modern-languages-literatures-cultures/russian-minor>)

S

- School and Community Psychology (M.A.) (p. 115)
- Secondary Education Major (M.A.T.) (p. 106)

- World History (Bridge Graduate Certificate) (p. 200)

COURSES A-Z

- #
- A (p. 317)
- B (p. 317)
- C (p. 317)
- D (p. 317)
- E (p. 317)
- F (p. 318)
- G (p. 318)
- H (p. 318)
- I (p. 318)
- J (p. 318)
- K (p. 318)
- L (p. 318)
- M (p. 318)
- N (p. 318)
- O (p. 318)
- P (p. 318)
- Q
- R (p. 318)
- S (p. 319)
- T (p. 319)
- U (p. 319)
- V
- W
- X
- Y
- Z

A

- ACC - Accounting (p. 320)
- ACO - Art: Core (p. 324)
- ACR - Art: Ceramics (p. 325)
- ACS - Art: Special Seminars (p. 326)
- ADA - Art: Digital Art (p. 327)
- ADN - Art: Design (p. 328)
- ADR - Art: Drawing (p. 329)
- AED - Art Education (p. 331)
- AET - Alternative Energy Technology (p. 333)
- AFA - Art: Design and Merchandising (p. 334)
- AFI - Art: Fibers (p. 336)
- AFS - African American Studies (p. 337)
- AGD - Art: Graphic Design (p. 340)
- AH - Art History (p. 342)
- AIA - Art: Interior Design (p. 344)
- AID - Art: Industrial Design (p. 346)
- AME - Art: Metalsmithing (p. 347)
- AN - Anesthesia (p. 348)
- ANA - Anatomy and Cell Biology (p. 350)
- ANT - Anthropology (p. 351)
- APA - Art: Painting (p. 356)
- APH - Art: Photography (p. 358)
- APR - Art: Printmaking (p. 359)

- APX - Academic Pathway Excellence (p. 361)
- ARB - Arabic (p. 362)
- ARM - Armenian (p. 363)
- ASL - Art: Sculpture (p. 364)
- ASN - Asian Studies (p. 365)
- AST - Astronomy (p. 366)
- AUD - Audiology (p. 367)

B

- BA - Business Administration (p. 369)
- BBE - Bilingual/Bicultural Education (p. 372)
- BE - Basic Engineering (p. 373)
- BIO - Biological Sciences (p. 375)
- BLW - Business Law (p. 381)
- BMB - Biochemistry and Molecular Biology (p. 382)
- BME - Biomedical Engineering (p. 383)
- BMS - Basic Medical Science (p. 389)

C

- CB - Cancer Biology (p. 390)
- CE - Civil Engineering (p. 392)
- CED - Counselor Education (p. 397)
- CHE - Chemical Engineering (p. 399)
- CHI - Chinese (p. 403)
- CHM - Chemistry (p. 404)
- CLA - Classics (p. 410)
- CLS - Clinical Laboratory Science (p. 412)
- CMT - Construction Management Technology (p. 414)
- COM - Communication (p. 415)
- CRJ - Criminal Justice (p. 424)
- CSC - Computer Science (p. 427)
- CTE - Career and Technical Education (p. 433)

D

- DNC - Dance (p. 435)
- DR - Dispute Resolution (p. 439)
- DSA - Data Science and Analytics (p. 440)
- DSB - Data Science for Business (p. 441)
- DSE - Data Science for Engineering (p. 442)

E

- ECE - Electrical and Computer Engineering (p. 443)
- ECO - Economics (p. 449)
- ED - Education (p. 455)
- EDA - Educational Administration (p. 456)
- EDP - Educational Psychology (p. 458)
- EDS - Educational Sociology (p. 462)
- EED - English Education (p. 463)
- EER - Educational Evaluation and Research (p. 464)
- EET - Electrical/Electronic Engineering Technology (p. 466)
- EGR - Engineering: Special Topics (p. 467)
- EHP - Educational History and Philosophy (p. 468)
- EI - Entrepreneurship and Innovation (p. 469)
- ELE - Elementary Education (p. 470)
- ELI - English Language Institute (p. 472)

- ELR - Employment and Labor Relations (p. 475)
- ENG - English (p. 476)
- EPS - Educational Leadership and Policy Studies (p. 485)
- ET - Engineering Technology (p. 486)
- ETT - Electrical Transportation Technology (p. 488)
- EVE - Electronic-drive Vehicle Engineering (p. 489)

F

- FIN - Finance (p. 491)
- FPC - Fine Arts: Interdisciplinary (p. 494)
- FPH - Family Public Health (p. 495)
- FRE - French (p. 497)
- FYS - First Year Seminar (p. 500)

G

- GEL - Geology (p. 501)
- GER - German (p. 503)
- GKA - Greek: Ancient (p. 506)
- GKM - Greek: Modern (p. 507)
- GLS - Global Studies (p. 508)
- GPH - Geography (p. 509)
- GS - Graduate School (p. 510)
- GSC - Global Supply Chain Management (p. 511)
- GSW - Gender Sexuality and Women's Studies (p. 514)

H

- HE - Health Education (p. 516)
- HEB - Hebrew (p. 518)
- HIS - History (p. 519)
- HON - Honors (p. 529)

I

- IBS - Interdisciplinary Biomedical Sciences (p. 530)
- IE - Industrial Engineering (p. 531)
- IM - Immunology and Microbiology (p. 537)
- ISM - Information Systems Management (p. 538)
- ITA - Italian (p. 541)

J

- JPN - Japanese Studies (p. 543)

K

- KHS - Kinesiology, Health and Sport Studies (p. 544)
- KIN - Kinesiology (p. 545)

L

- LAS - Latino/Latina and Latin American Studies (p. 548)
- LAT - Latin (p. 549)
- LDT - Learning Design and Technology (p. 550)
- LED - Language Education (p. 554)
- LEX - Law (p. 555)
- LFA - Life Fitness Activities (p. 572)
- LGL - Language Learning (p. 574)
- LIN - Linguistics (p. 575)
- LIS - Library and Information Science (p. 578)

M

- MAE - Mathematics Education (p. 582)
- MAT - Mathematics (p. 583)
- MCT - Mechanical Engineering Technology (p. 590)
- MD - Medical Doctor (p. 591)
- MD1 - Medical School: Year 1 (p. 592)
- MD2 - Medical School: Year 2 (p. 593)
- MD3 - Medical School: Year 3 (p. 594)
- MD4 - Medical School: Year 4 (p. 595)
- MDR - Medical Research (p. 607)
- ME - Mechanical Engineering (p. 608)
- MED - Music Education (p. 615)
- MGG - Molecular Genetics and Genomics (p. 616)
- MGT - Management (p. 618)
- MIT - Manufacturing and Industrial Engineering Technology (p. 621)
- MKT - Marketing (p. 622)
- MS - Mortuary Science (p. 625)
- MSE - Materials Science and Engineering (p. 628)
- MUA - Music Ensembles and General Courses (p. 629)
- MUH - Music History (p. 633)
- MUP - Music Private Instruction (p. 635)
- MUT - Music Theory (p. 650)

N

- NE - Near Eastern Studies (p. 653)
- NEN - Nanoengineering (p. 655)
- NFS - Nutrition and Food Science (p. 656)
- NUR - Nursing (p. 660)

O

- OT - Occupational Therapy (p. 668)

P

- PAA - Pathologists' Assistant (p. 671)
- PAS - Physician Assistant Studies (p. 674)
- PCS - Peace and Conflict Studies (p. 676)
- PED - Pediatrics (p. 677)
- PH - Public Health (p. 678)
- PHA - Pharmacy (p. 679)
- PHC - Pharmacology (p. 681)
- PHI - Philosophy (p. 682)
- PHY - Physics (p. 686)
- POL - Polish (p. 691)
- PPR - Pharmacy Practice (p. 693)
- PS - Political Science (p. 696)
- PSC - Pharmaceutical Sciences (p. 703)
- PSL - Physiology (p. 706)
- PSY - Psychology (p. 708)
- PT - Physical Therapy (p. 716)
- PTH - Pathology (p. 720)
- PYC - Psychiatry (p. 721)

R

- RAS - Radiologist Assistant Studies (p. 722)
- RCI - Rehabilitation Counseling and Community Inclusion (p. 723)

- RDT - Radiologic Technology (p. 724)
- RLL - Reading, Language and Literature Education (p. 726)
- ROC - Radiation Oncology (p. 728)
- RT - Radiation Therapy Technology (p. 730)
- RUS - Russian (p. 732)

S

- SCE - Science Education (p. 734)
- SED - Special Education (p. 735)
- SLA - Slavic (p. 737)
- SLP - Speech and Language Pathology (p. 738)
- SOC - Sociology (p. 741)
- SPA - Spanish (p. 745)
- SSE - Social Studies Education (p. 749)
- STA - Statistics (p. 750)
- STE - Sustainable Engineering (p. 751)
- STS - Study Skills (p. 752)
- SW - Social Work (p. 753)
- SWA - Swahili (p. 761)
- SYE - Systems Engineering (p. 762)

T

- TED - Teacher Education (p. 763)
- THR - Theatre (p. 765)

U

- UGR - Undergraduate Research (p. 776)
- UKR - Ukrainian (p. 777)
- UP - Urban Planning (p. 778)
- US - Urban Studies (p. 781)

ACC - ACCOUNTING

ACC 3010 Introduction to Financial Accounting Cr. 3

Theory and practical applications of financial accounting principles; preparation and evaluation of financial statements and the items that make up these statements using real-world examples. Use of the language of business to communicate financial information about business enterprises. Offered Every Term.

Prerequisites: ([BA 2300 with a minimum grade of C])

ACC 3020 Introduction to Managerial Accounting Cr. 3

Basic terms and concepts used in managerial accounting: cost behavior; cost-volume profit analysis; business planning and accounting controls; and how accounting information in managerial decision making. Offered Every Term.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([ECO 2010 with a minimum grade of C]) AND ([BA 2300 with a minimum grade of C])

ACC 4500 Business Co-op Assignment Cr. 0

Must be elected by Professional Development Co-operative Program students during work semester. Offered for S and U grades only. No credit toward degree. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. Offered Every Term.

Restriction(s): Enrollment limited to students in the School of Business.

Equivalent: FIN 4500, MGT 4500, MKT 4500

ACC 5100 Intermediate Financial Accounting I Cr. 3

Accounting principles for preparing complete set of financial statements; how accounting meets the needs of various external users. Theories and practices of external financing of external financial reporting for organizations. Valuation and accounting for assets: cash, receivables, and inventory. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([ACC 3020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5110 Intermediate Financial Accounting II Cr. 3

Continuation of ACC 5100. Theories and practices underlying external financial reporting for organizations. Valuation of and accounting for specific items on the balance sheet, including property, plant and equipment, intangible assets, current and long-term liabilities, stockholders' equity, investments, income measurement concepts and issues. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 5100 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5115 Intermediate Financial Accounting III Cr. 3

Continuation of ACC 5110. Complex financial reporting topics, such as securities, earnings per share, income taxes, pensions, leases, changes and errors, disclosure issues. Cases used to integrate concepts studied in managerial, systems, and tax accounting courses in this capstone course. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 5110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5120 Advanced Accounting Cr. 3

Theories and practical applications of financial accounting: as learned in intermediate accounting courses; focus on accounting of consolidation and combination of business entities; accounting for foreign currency transactions; and interim and segment reporting. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([ACC 5110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5130 Accounting Systems Design and Control Cr. 3

Implementation of accounting systems in a computer-intensive business environment; methods for developing and documenting Accounting Information Systems (AIS); hands-on use of enterprise resource planning software package for accounting functions. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 5100 with a minimum grade of C]) AND ([ISM 3630 with a minimum grade of C]) OR [ISM 4630 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5160 Managerial Accounting Cr. 3

Focus on management accountant as integral part of the management team. Analyzing, managing, and accounting for costs; relevance of cost management in manufacturing firms and other types of organization; solving homework problems by application of concepts covered in textbook and lectures. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 3020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5170 Introduction to Taxation: Individuals Cr. 3

Introduction to taxation, tax research, and tax planning. Fundamental elements of individual taxation; how individuals and business owners benefit from an understanding of tax law. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([ACC 3020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5180 Governmental and Not-for-Profit Accounting Cr. 3

Theory and practical applications of accounting for governmental and not-for-profit organizations, and how they differ from for-profit entities. Technical accounting issues and management and regulatory issues for both state and local governments and for other governmental and non-governmental not-for-profit entities. Course is preparation for governmental and not-for-profit portion of the CPA examination. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ACC 5110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5200 ERP Systems: Concepts and Practice Cr. 3

Enterprise Planning (ERP) systems comprise the primary software packages for the accounting, operational, and managerial activities of an organization. Role and function of ERP systems within organizations; analysis of major business processes and their implementation in ERP software; hands-on use of ERP packages for transaction processing and decision support; use of ERP for customer relationship management, supply chain management, and electronic commerce. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([ACC 3020 with a minimum grade of C]) AND ([ISM 3630 with a minimum grade of C]) OR [ISM 4630 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$117

Equivalent: ISM 5200

ACC 5250 Introduction to Internal Auditing Cr. 3

Theory of internal auditing and how it relates to the CPA audit and the audit committee. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([ACC 3020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ACC 5270 Introduction to Taxation: Business Entities Cr. 3

Builds on basic U.S. tax concepts learned in ACC 5170. Taxation of corporations, S corporations, partnerships, estates and trusts. Accounting for income taxes on financial statements, taxation of corporate reorganizations and liquidations, basic multi-state and multi-national taxation principles, and transfer taxes and wealth planning. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([ACC 5170 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5890 Internship in Accounting or Tax Practice Cr. 3

Student performs assigned tasks and responsibilities in a professional manner under supervision of host-employer for minimum 160 hours during the semester, abiding by the rules and regulations established by the employer and expected of all employees; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business Administration. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5990 Directed Study in Accounting Cr. 1-3

Research conducted under supervision of full-time faculty member in an area of special interest to student and faculty member. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Repeatable for 6 Credits

ACC 5996 Auditing, Assurance and Attestation Cr. 3

Principles and procedures used by public accountants in examination of financial statements of companies and other organizations; issuing an independent opinion; professional standards and responsibilities of the certified public accountant. Offered Every Term.

Prerequisites: (May be taken concurrently: [ACC 5115 with a minimum grade of C]) AND ([BA 3400 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 7040 Intermediate Financial Accounting I Cr. 3

Study of accounting theory and financial statement presentation, underlying assets and income determination at an intermediate level of analysis. Topics include cash and receivables, marketable securities, inventories, property and intangibles. No credit after ACC 5100 and ACC 5110. Offered Fall, Spring/Summer.

Prerequisites: ([BA 6000 with a minimum grade of C]) AND ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7050 Intermediate Financial Accounting II Cr. 3

Continuation of accounting theory and financial statement presentation, underlying liabilities, and shareholder equity at an intermediate level of analysis. Topics include investments, accounting for leases, pensions, income taxes, disclosures and cash flow. Offered Fall, Winter.

Prerequisites: ([ACC 7040 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7115 Financial Statement Analysis Cr. 3

Development of ability to extract and interpret information reported in financial statements in order to evaluate the operating performance and financial status of a firm. Offered Winter.

Prerequisites: ([ACC 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ACC 7120 Introduction to Taxation: Individuals Cr. 3

Introduction to taxation, tax research, and tax planning. Fundamental elements of individual taxation; how individuals and business owners benefit from an understanding of tax law. No credit after ACC 5170 or undergrad. equiv. Offered Fall, Spring/Summer.

Prerequisites: ([BA 6000 with a minimum grade of C] OR [ACC 7040 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ACC 7122 Advanced Accounting I Cr. 3

Theory and practical applications of accounting for consolidation and combination of business entities and accounting for foreign currency transactions and interim and segment reporting. No credit after ACC 5120 or other undergrad. equiv. course. Offered Fall.

Prerequisites: ([ACC 5115 with a minimum grade of C] OR [ACC 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7130 Intermediate Managerial Accounting Cr. 3

Building on managerial accounting skills mastered in B A 7000, this course examines accounting and control issues and the use of information in the decision-making process from a managerial perspective, through the study of cases. No credit after ACC 5160 or undergrad. equiv. Offered Fall, Winter.

Prerequisites: ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7145 Accounting Systems: Design and Controls Cr. 3

Implementation of accounting systems in the computer-intensive business environment; methods for developing and documenting Accounting Information Systems (AIS); evaluation of controls; work with accounting software package. No credit after ACC 5130 or equiv. Offered Fall.

Prerequisites: ([ACC 7040 with a minimum grade of C] OR [ACC 5100 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7148 ERP Systems and Business Integration Cr. 3

Enterprise Planning (ERP) systems are the primary software packages for accounting, operational, and managerial activities of organizations. How ERP systems integrate and coordinate business processes and the management of the organization. Extensive hands-on use of popular software packages for key business activities such as sales, procurement, and production. Offered Yearly.

Prerequisites: ([BA 7000 with a minimum grade of C]) AND ([ISM 7500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$117

ACC 7155 Forensic Accounting Cr. 3

Accounting and legal fundamentals of forensic accounting. Topics include tax and financial statement fraud, information security, and forensic accounting applications in such cases as bankruptcy, identity theft, and organized crime and terrorism investigations. Offered Spring/Summer.

Prerequisites: ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7165 Internal Audit I Cr. 3

Theory of internal audit; the context within which internal auditing functions; its relation to the external audit and the audit committee. Offered Fall, Winter.

Prerequisites: ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7170 International Accounting Cr. 3

Issues in international business environment: currency translations; consolidated statements for multinational corporations, inflation accounting; other issues. Offered Fall.

Prerequisites: ([ACC 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7180 Auditing Cr. 3

Principles and procedures of internal and external auditing; statistical sampling and other modern auditing techniques; professional standards and responsibilities of the auditor. Offered Fall, Winter.

Prerequisites: ([ACC 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7188 Governmental and Not-for-Profit Accounting Cr. 3

Theory and practical applications of accounting for governmental and not-for-profit organizations, and how they differ from for-profit entities. Technical accounting issues and management and regulatory issues for both state and local governments and for other governmental and non-governmental not-for-profit entities. No credit after ACC 5180 or undergrad equiv. Offered Every Term.

Prerequisites: ([ACC 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7190 Advanced Auditing Cr. 3

Advanced principles and procedures to perform financial audits; case studies of emerging auditing techniques and methods to detect fraud; application of advanced statistical sampling techniques; analysis of auditor's role in society. Offered Winter.

Prerequisites: ([ACC 7180 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7280 Accounting Data Analytics Cr. 3

Introduces concepts, techniques, and software applications used to analyze accounting and related data to support financial decision-making and planning. These data are generated both within and outside the organization. Offered Fall, Winter.

Prerequisite: BA 7000

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7300 Accounting and Tax Research and Professional Communications Cr. 3

Methodology of accounting and tax research, including computer-assisted research and the communication of argument and conclusions. Sources and roles of legislative, executive, judicial and professional bodies in creating, interpreting and enforcing policies and practices. Commonly-used research databases studied through cases. Offered Every Term.

Prerequisites: (May be taken concurrently: [ACC 7120 with a minimum grade of C]) AND ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7310 Business and Professional Ethics for Managers and Accountants Cr. 3

Laws, regulations and professional codes of conduct as reflection of expectations of corporate stakeholders regarding the ethics of accountants and managers. Significance of integrity, independence, and reputation in light of these rules. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7320 Introduction to Taxation: Business Entities Cr. 3

Builds on basic U.S. tax concepts learned in ACC 5170/ACC 7120. Taxation of corporations, S corporations, partnerships, estates and trusts. Accounting for income taxes on financial statements, taxation of corporate reorganizations and liquidations, basic multi-state and multi-national taxation principles, and transfer taxes and wealth planning. Offered Fall, Spring/Summer.

Prerequisites: ([ACC 7120 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ACC 7325 Advanced Tax Research and IRS Procedures Cr. 3

Builds on research skills developed in ACC 7300 focusing on tax research methodology, writing and citation; role of legal authorities in taxation; IRS practices and procedures. Offered Winter.

Prerequisites: ([ACC 7300 with a minimum grade of C]) AND ([ACC 7320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7335 Taxation of Corporations and Shareholders Cr. 3

Advanced taxation issues related to consolidated tax returns; corporate acquisitions, mergers, divestitures, and reorganizations; survival of tax attributes; accounting for uncertainty in income taxes; other advanced tax topics. Offered Fall.

Prerequisites: ([ACC 7300 with a minimum grade of C]) AND ([ACC 7320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7340 Taxation of Pass-Through Entities Cr. 3

Tax rules governing formation, operation, and dissolution of partnerships, S corporations, and limited liability companies; aggregate and entity theories; distributions, basis adjustments, dispositions, and other related tax issues. Offered Fall.

Prerequisites: ([ACC 7320 with a minimum grade of C]) AND ([ACC 7335 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7400 Taxation of International Business and Multinational Transactions Cr. 3

Taxation of U.S. persons investing or doing business outside the United States. Foreign tax credit, sourcing rules, controlled foreign corporation and related tax issues, transfer pricing issues, and overview of tax issues related to non-U.S. persons doing business in the United States. Offered Fall.

Prerequisites: ([ACC 7300 with a minimum grade of C]) AND ([ACC 7320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7410 Tax Accounting Methods and Accounting for Income Taxes Cr. 3

Tax accounting issues faced by business entities and their tax advisers, including tax accounting methods and periods, inventory methods, tax accrual workpapers, tax uncertainties and deferred taxes. Offered Yearly.

Prerequisites: ([ACC 7050 with a minimum grade of C]) AND ([ACC 7120 with a minimum grade of C]) AND ([ACC 7150 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7420 Taxation by State and Local Jurisdictions Cr. 3

Survey and examination of state, local, and some international income, franchise, property, sales, and use taxes and their impact on entrepreneurs. Emphasis on North American jurisdictions. Offered Irregularly.

Prerequisites: ([ACC 7120 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7450 Taxes and Business Strategy Cr. 3

Effect of taxation on business decisions such as choice of form of organization, international operations, employee and executive compensation strategies, business mergers, acquisitions and divestitures. Business decisions examined by studying tax, accounting, and non-tax considerations from a management perspective. Offered Winter.

Prerequisites: ([ACC 7300 with a minimum grade of C]) AND ([ACC 7320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ACC 7990 Internship in Accounting or Tax Practice Cr. 1-3

Application and assessment of concepts developed in studies through meaningful real-world experience. Student must obtain internship position and complete internship application form before registering. Student performs assigned tasks in professional manner under supervision of host-employer for minimum 160 hours during semester; abides by rules and regulations established by employer and expected of all employees; and must complete all course requirements outlined by the School for the internship program. Offered Every Term.

Prerequisites: ([ACC 7040 with a minimum grade of C] OR [ACC 7050 with a minimum grade of C] OR [BA 7000 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the MS in Accounting or MS in Taxation programs; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

ACC 7995 Directed Study in Accounting Cr. 1-3

Opportunity to conduct research under the supervision of a member of the graduate faculty in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ([ACC 7040 with a minimum grade of C] OR [ACC 7050 with a minimum grade of C] OR [BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 3 Credits

ACC 7998 Seminar in Tax and Accounting Policy Cr. 3

Seminar topics include history of accounting and tax policy in the U.S., establishment of accounting and tax rules and standards, professional responsibilities of accounting and tax professionals; relationship and application to recent and current events. Offered Every Term.

Prerequisites: ([ACC 7050 with a minimum grade of C]) AND ([ACC 7120 with a minimum grade of C]) AND (May be taken concurrently: [ACC 7300 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a MS in Accounting or MS in Taxation degrees; enrollment limited to students in the Law School or School of Business.

ACO - ART: CORE

ACO 1200 Surface Studio Cr. 3

Core studio for visual communication in a spectrum of two-dimensional media and color theory. Explorations include elements and principles of design, basic digital technique, basic traditional material handling, creative thinking, critical discussion and problem solving. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$45

ACO 1230 Space Studio Cr. 3

Core studio for visual communication in a spectrum of three-dimensional media and composition in the built environment. Explorations include elements and principles of design, basic digital techniques, material handling, shop experience, and creative problem solving. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$75

ACO 1270 Time Studio Cr. 3

Core studio for visual communication in time-based media composition including elements and principles of design, basic time-based methods for audio/video production, performance, social practice, creative thinking, and critical discussion and problem solving. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$150

ACR - ART: CERAMICS

ACR 2550 Ceramics and Pottery Design I Cr. 3

Introduction to beginning clay forming, glazing and firing. Primarily for non-art and beginning art majors. Offered Every Term.

Course Material Fees: \$75

ACR 2560 Ceramics and Pottery Design II Cr. 3

Continuation of ACR 2550. Development of personal approach is encouraged. Offered Every Term.

Prerequisites: ([ACR 2550])

Course Material Fees: \$75

ACR 3550 Beginning Ceramics Cr. 3

Basic techniques of wheel throwing, hand building, glazing and firing. Lectures, demonstrations, critiques. Offered Every Term.

Prerequisites: ([ACO 1200]) AND ([ADR 1060])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$75

ACR 4000 Ceramics: Wheel Throwing Cr. 3

Development of personal, technical and aesthetic skills in using potter's wheel as tool to create utilitarian and non-utilitarian objects. Group and individual critiques. Offered Yearly.

Prerequisites: ([ACR 2550]) AND ([ACR 3550])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 12 Credits

ACR 4001 Handbuilding Cr. 3

Intermediate and advanced handbuilding techniques including coiling, extrusions, mold and slab construction. Surfacing, glazing and firing processes as they apply to completing the objects. Offered Yearly.

Prerequisites: ([ACR 2550]) AND ([ACR 3550])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 12 Credits

ACR 4550 Intermediate Ceramics Cr. 3

Advanced building techniques; glaze and clay body calculation, mold-making and aesthetic evaluation. Offered Every Term.

Prerequisites: ([ACR 3550])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

ACR 5550 Advanced Ceramics Cr. 3

Advanced hand building and wheel throwing demonstrations. Lectures on historical and contemporary issues. Emphasis on personal growth and development. Offered Every Term.

Prerequisites: ([ACR 4550 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in a Bachelor of Fine Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 12 Credits

ACR 5880 Directed Projects: Ceramics Cr. 3-6

Independent projects and study in consultation with faculty. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Fine Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

ACR 7550 Graduate Problems in Ceramics Cr. 3

Individual problems in advanced ceramics. Offered Every Term.

Prerequisites: ([ACR 5550 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$100

Repeatable for 24 Credits

ACR 8880 MFA Studio: Ceramics Cr. 3-9

Extended problems in ceramics; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$150

Repeatable for 36 Credits

ACS - ART: SPECIAL SEMINARS

ACS 3997 Sophomore Seminar in the Visual Arts Cr. 3

Introduction to a variety of art and design disciplines: developing basic critiquing skills, learning how to document and present art design projects, and gaining a general knowledge of the contemporary art world. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ([ACO 1200]) AND ([ADR 1060])

Restriction(s): Enrollment is limited to Undergraduate level students.

ACS 5200 Art Gallery Management Cr. 3

Offers a larger sense of the profession gained through readings, opportunities to network within and outside Wayne State University's art galleries, and hands-on experience. The following operational fundamentals are thoroughly examined: exhibition and season design, marketing, budgeting, and standard facility requirements. Offered Winter.

Repeatable for 6 Credits

ACS 5210 Art Gallery Internship Cr. 1-3

Provides students with opportunities to serve as interns at galleries and museums internal and external to the department. Students update the instructor with documentation of significant projects on which they have worked. Offered Every Term.

Repeatable for 6 Credits

ACS 5550 Special Topics Cr. 3

Students examine specific issues related to one or more of the studio disciplines. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$30

Repeatable for 6 Credits

ACS 5650 Museum Culture: Histories, Critiques, Practices Cr. 3

The art museum as a subject of cultural history and criticism, social policy, and art. Includes panel discussions among museum professionals and opinion leaders, designed to explore current issues. Offered Yearly.

ACS 5996 Honors Project Cr. 3

Students complete a substantial creative project reflecting conceptual issues, determined by the student in collaboration with his/her professor. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

ACS 5997 Senior Seminar in the Visual Arts Cr. 3

Interdisciplinary seminar on contemporary issues in the visual arts including studio practices, history, and criticism. Satisfies the General Education Writing Intensive Course in the Major requirement. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Art or Art Honors; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Fine Arts degree.

ACS 7998 Master of Arts Seminar Cr. 2-3

Directed reading, research, bibliography. Offered fall semester only. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Art or Art Honors; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

ACS 7999 Master's Essay Direction Cr. 1-3

Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art or Art Honors; enrollment is limited to Graduate level students.

ACS 8997 Master of Fine Arts Seminar Cr. 3

Concepts of art; contemporary art problems. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Art; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 6 Credits

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

Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art History; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ADA - ART: DIGITAL ART

ADA 2210 Introduction to Digital Practices Cr. 3

Introductory survey of digital methods of art production; digital painting and drawing, 3D modeling, and photo manipulation. Offered Fall, Winter.

Prerequisites: ([ACO 1200 with a minimum grade of D-] OR [ACO 1230 with a minimum grade of D-] OR [ACO 1270 with a minimum grade of D-] OR [APH 2400 with a minimum grade of D-])

Course Material Fees: \$95

ADA 2220 Time-Based Media I: Video Art Cr. 3

Experimental digital video production techniques: complete workflow from camera to post production and DVD authoring. Technical tuition supplemented by readings, critiques, discussions and screenings of key examples of video art. Offered Winter.

Prerequisites: ([ACO 1200 with a minimum grade of D-] OR [ACO 1230 with a minimum grade of D-] OR [ACO 1270 with a minimum grade of D-] OR [APH 2400 with a minimum grade of D-])

Course Material Fees: \$150

ADA 3220 Introduction to Interactivity in Graphic Arts Cr. 3

Exploration of a variety of art-making strategies that utilize digital technologies and interactive media; emphasis on computer-based and online art practices and web-oriented programming languages. Offered Yearly.

Prerequisites: ([ACO 1200 with a minimum grade of D-] OR [ACO 1230 with a minimum grade of D-] OR [ACO 1270 with a minimum grade of D-] OR [APH 2400 with a minimum grade of D-])

Course Material Fees: \$145

Equivalent: AGD 3260

ADA 4220 Time-Based Media II: Experimental Animation Cr. 3

Strategies for creating animation-based artworks by combining traditional techniques with digital technologies. Technical tuition supplemented by readings, critiques, discussions and screenings of key examples of animation art. Offered Yearly.

Prerequisites: ([ACO 1200 with a minimum grade of D-] OR [ACO 1230 with a minimum grade of D-] OR [ACO 1270 with a minimum grade of D-] OR [APH 2400 with a minimum grade of D-])

Course Material Fees: \$125

ADA 4230 Time-Based Media III: Experimental 3D Animation Cr. 3

3D modeling and animation techniques. Technical tuition supplemented by readings, critiques, discussions and screenings featuring various mainstream and experimental examples of 3D animation. Offered Winter.

Prerequisites: ([ACO 1200 with a minimum grade of D-] OR [ACO 1230 with a minimum grade of D-] OR [ACO 1270 with a minimum grade of D-] OR [APH 2400 with a minimum grade of D-])

Course Material Fees: \$165

Repeatable for 6 Credits

ADA 4240 Advanced Interactivity: Experimental Video Games Cr. 3

Studio course focusing on video game creation from a fine arts perspective; emphasizing 2D and 3D experimental and unconventional approaches. Offered Winter.

Prerequisites: ([ADA 3220] OR [AGD 3260])

Repeatable for 6 Credits

ADA 5830 Directed Projects in Digital Arts Cr. 1-3

Individual problems in electronic arts. Offered Fall, Winter.

Course Material Fees: \$165

Repeatable for 6 Credits

ADA 6230 Advanced Projects in Digital Arts Cr. 3

Research- and project-oriented studio class for intermediate students. Discussion, critique, development and refinement of technical and conceptual approaches to the application of digital technologies within the fine arts. Offered Winter.

Course Material Fees: \$165

Repeatable for 15 Credits

ADA 6250 Advanced Time-Based Media Cr. 3

Advanced projects in time-based media surveying the intersections of 3D Animation, 2D Animation, and video art. Offered Yearly.

Course Material Fees: \$165

Repeatable for 9 Credits

ADA 6830 Special Topics in Digital Arts Cr. 3

In-depth specializations supplementing and building on digital arts courses. Topics may include: programming for artists; sound design and sonic arts. Offered Fall, Winter.

Repeatable for 12 Credits

ADN - ART: DESIGN

ADN 3100 Design Process Cr. 3

Intended for the student who is entering the design field and requires an understanding of brand identity development, design thinking, and product line development. Offered Every Term.

Prerequisites: ([ACO 1230 with a minimum grade of C-])

Repeatable for 6 Credits

ADN 6320 History of Modern Design I Cr. 3

Major design trends in America and Europe from mid-nineteenth century to World War I. Covers a broad spectrum of the applied arts. Offered Fall.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

ADN 6330 History of Modern Design II Cr. 3

Major design trends in America and Europe from end of World War I through 1950s. Covers a broad spectrum of the applied arts. Offered Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Equivalent: AID 6330

ADR - ART: DRAWING

ADR 1050 Drawing I Cr. 3

Introduction to basic drawing skills such as linear perspective, light and shadow, use of dry and wet media; emphasis on composition. Drawing primarily still life subjects. Offered Fall, Winter.

Course Material Fees: \$30

ADR 1060 Drawing II Cr. 3

Further development of basic drawing skills and concepts. Continued exploration of media. Drawing based on observation and imagination. Offered Fall, Winter.

Prerequisites: ([ADR 1050])

Course Material Fees: \$30

ADR 2070 Beginning Life Drawing Cr. 3

Initial exploration of human figure using limited drawing media; essential aspects of the figure: proportion, gesture, composition. Offered Fall, Winter.

Prerequisites: ([ADR 1060])

Course Material Fees: \$90

ADR 2130 Introduction to Alternative Drawing Methods and Materials Cr. 3

Survey of contemporary and traditional materials and methods of paper making, paper casting, paper cutting and paper folding, as well as an introduction to book binding and altered books. Compositions based on observation and imagination. Offered Yearly.

Prerequisites: ([ACO 1200]) AND ([ADR 1050]) AND ([ADR 1060])

Course Material Fees: \$80

Repeatable for 6 Credits

ADR 3070 Intermediate Life Drawing Cr. 3

Continued systematic study of human figure using broad range of media. Offered Fall, Winter.

Prerequisites: ([ADR 2070])

Course Material Fees: \$90

ADR 5060 Advanced Concepts in Drawing and Painting Cr. 3-6

Emphasis on individual projects using any appropriate medium. Work is created independently (out of class) with scheduled critiques for faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.

Prerequisites: ([ADR 3070]) AND ([APA 4000])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Equivalent: ADR 5700

Repeatable for 6 Credits

ADR 5070 Advanced Life Drawing Cr. 3

Continued study of human figure based on observation. Composition. Expressive interpretation of the figure through broad range of media. Offered Fall, Winter.

Prerequisites: ([ADR 3070])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

ADR 5080 Landscape Drawing Cr. 3

Drawing or painting, as appropriate, outdoors at a variety of urban, suburban, and rural sites in the metropolitan Detroit area; students are expected to drive or carpool to locations within an hour of Detroit. Interpretation of landscape subjects through observation and imagination. Offered Spring/Summer.

Prerequisites: ([ACO 1200]) AND ([ADR 1050]) AND ([ADR 1060])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Equivalent: ADR 7080

Repeatable for 6 Credits

ADR 5090 Anatomy Cr. 3

Superficial human anatomy including effects of muscular and skeletal systems. Drawing from both models and skeletons, lectures, demonstrations. Offered Yearly.

Prerequisites: ([ADR 2070])

Course Material Fees: \$90

ADR 5100 Contexts of Studio Practice Cr. 3

Critical inquiry into art issues, past and present, and contemporary studio practices related to painting. Seminar based on visits to museums, galleries, private collections, artists' studios, and optional trips to major art centers such as New York and Chicago. Offered Yearly.

Equivalent: APA 5100

Repeatable for 6 Credits

ADR 5160 Advanced Alternative Drawing Methods and Materials Cr. 3

Survey of contemporary and traditional materials and methods of paper making, paper casting, paper cutting and paper folding, as well as an introduction to book binding and altered books. New techniques will be incorporated into a personal body of work. Offered Yearly.

Prerequisites: ([ACO 1200, ADR 1050, and ADR 1060])

Course Material Fees: \$80

Repeatable for 6 Credits

ADR 5700 Advanced Concepts in Drawing and Painting Cr. 3-6

Emphasis on individual projects using any appropriate medium. Work is created independently (out of class) with scheduled critiques for faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$30

Equivalent: ADR 5060

Repeatable for 6 Credits

ADR 5800 Directed Projects: Drawing Cr. 3-6

Individual work supervised by faculty on arranged basis. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Repeatable for 998.99 Credits

ADR 7060 Graduate Problems in Drawing and Painting Cr. 3-9

Emphasis on self-directed projects with advice from faculty. May include lectures, demonstrations, and visits to off-campus sites. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Equivalent: ADR 5060, ADR 7700

Repeatable for 24 Credits

ADR 7070 Graduate Life Drawing Cr. 3

Individual projects based upon study of the human figure. Broad range of media encouraged. Offered Fall, Winter.

Prerequisites: ([ADR 5070])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$90

Repeatable for 9 Credits

ADR 7080 Landscape Drawing Cr. 3

Drawing or painting, as appropriate, outdoors at a variety of urban, suburban and rural sites in the metropolitan Detroit area; students are expected to drive or carpool to locations within an hour of Detroit. Interpretation of landscape subjects through observation and imagination. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Equivalent: ADR 5080

Repeatable for 15 Credits

ADR 7700 Graduate Problems in Drawing and Painting Cr. 3-9

Emphasis on self-directed projects with advice from faculty. May include lectures, demonstrations, and visits to off-campus sites. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$30

Equivalent: ADR 5060, ADR 7060

Repeatable for 24 Credits

ADR 8800 MFA Studio: Drawing Cr. 3-9

Extended self-directed work in drawing (eighteen to twenty-seven hours per week). Consultation with appropriate graduate faculty on an arranged basis. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 36 Credits

AED - ART EDUCATION

AED 5000 Introduction to Art Education Cr. 3

Design of developmentally appropriate and comprehensive art experiences, teaching strategies, and authentic assessment of student learning in art. History, theories and philosophies of visual arts education; contemporary trends and issues. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$15

AED 5020 Painting: Methods and Materials Cr. 3

Methods, materials and processes suitable for teaching painting in the schools. Subject selection, composition, surface selection and preparation, mixing and application of paint, finishing, and presentation. Students develop basic skills in painting for personal artistic expression. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$15

Repeatable for 9 Credits

AED 5050 Integrating the Arts into the Elementary Classroom Cr. 3

Introductory course: integration of visual arts, music, dance, and theatre into the teaching, learning and curriculum of the elementary classroom. Offered Fall, Winter.

Prerequisites: (2 of ELE 3300, ELE 3400, ELE 3500, ELE 3600, ELE 6290, ELE 6390, ELE 6500, ELE 6600) AND (1 of ELE 3320, ELE 6310) AND (TED 5150)

Course Material Fees: \$30

AED 5070 Methods and Materials of Sculptural Expression Cr. 3

Exploration of three-dimensional forms using various media; emphasis on sculptural concepts, materials, tools and techniques related to teaching sculpture on the elementary and secondary level. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$15

AED 5100 Topics in Art Education Cr. 1-3

Art experiences designed for the specific needs of special groups. Topics to be announced in Schedule of Classes. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$15

AED 5150 Computer Graphics in the Classroom Cr. 3

Introduction to digital media and the production of computer graphics by using drawing, painting, graphic design, animation, video and web techniques. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

AED 5160 Theory and Practice in Art Education Cr. 3

Development and analysis of instructional objectives in art education; organization and management of art classrooms; teaching strategies and assessment practices. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

AED 5230 Ceramics Education I Cr. 3

An overview of handbuilding processes, various firing procedures including blackware and raku, decorating, glazing and equipment maintenance. Emphasis placed on the educational benefits and procedures for working with people of various ages and the management of materials for teaching. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$25

AED 5280 Printmaking: Methods and Materials Cr. 3

Studio exploration of relief, planographic, intaglio, and stencil processes as methods of reproduction for artistic expression. Examination of tools, methods and processes suitable for the classroom. Includes study in lithography, dry point, etching, calligraphy, woodcut, linocut, and photo screen processes. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$15

Repeatable for 9 Credits

AED 5650 Art Teaching Laboratory Cr. 3

Laboratory experience in teaching art to elementary, middle, and high school students. Pre-student teaching experiences under close supervision of an experienced Visual Arts teacher. Offered Fall.

Prerequisites: (May be taken concurrently: [AED 5100 with a minimum grade of D-]) AND ([AED 5160 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the College of Education.

AED 5690 Collage, Assemblage, and Multi-Media: Methods and Materials Cr. 3

History and methods of creating collage, assemblage, and multi-media art works. Integration of developmental issues, use of personal meaning and experience for lesson planning, unit planning, and work assessment strategies. Offered Winter.

Prerequisites: ([ADR 1050, ADR 1060, AH 1110, and AH 1120] OR [ADR 2070, APA 2100, and ASL 2150])

Course Material Fees: \$40

AED 5890 The Art of Indigenous Cultures: Inclusion in the K-12 Curriculum Cr. 3

Focus on non-Western, indigenous art forms, such as Balinese architecture, ceramics of Papua New Guinea, Aboriginal painting, Precolumbian culture, and Japanese gardens; means of integrating this content into the K-12 Curriculum. Offered Winter, Spring/Summer.

Prerequisites: ([AH 1110 and AH 1120])

AED 6230 Ceramics Education II Cr. 3

Emphasis is placed on throwing procedures, the use of various clay bodies, firing at various temperatures, making and using tools, ceramic history and its use and benefits in a school curriculum. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$35

Repeatable for 9 Credits

AED 6300 Explorations in Art Therapy Cr. 3

Provides non-majors with introduction to art therapy, its history and development, and major approaches. Offered Yearly.

AED 6320 Art Therapy: Introduction and Ethics Cr. 3

Introduction to and ethics of art therapy practice. Offered Yearly.

Course Material Fees: \$25

AED 6340 Theory of Art Therapy Cr. 3

Slide lectures, studio experiences, assigned readings, discussions, and critical evaluations in the history and literature of art therapy and closely-related fields. Offered Yearly.

AED 6360 Aspects of Art Therapy Cr. 1-12

Aspects of the use of art therapy chosen to develop students' breadth or depth in art therapy practice with various groups and settings. Offered Yearly.

Repeatable for 12 Credits

AED 6910 Multicultural Issues in Visual Arts Education and Art Therapy**Cr. 2-3**

Provides all visual arts education and art therapy students with discipline-specific experiences, current theoretical perspectives, and best practices to enhance the effectiveness of their work in diverse and multicultural learning or therapeutic environments. Requires 40 hours of Service Learning in the community. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Education.

AED 7300 Studio Art Therapy Cr. 3

Students focus on studio art in the development of art experientials to address various client needs. Offered Yearly.

Prerequisites: ([AED 6320]) AND ([AED 6340])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

AED 7310 Art Therapy with Groups Cr. 4

Therapeutic factors of groups; facilitation of art therapy groups. Offered Winter.

Prerequisites: ([AED 6320]) AND ([AED 6340]) AND ([AED 7300])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

AED 7330 Art Therapy in the Schools Cr. 3

Slides, lectures and studio experiences relating to the research, theory and practices of art therapy with children. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

AED 7340 Art Therapy with Adults: Assessment and Practice Cr. 3

In-depth presentation of theory, practice and research in art therapy with older adults. Slides, lectures, studio experiences. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

AED 7380 Art Therapy Practicum Cr. 2-3

Laboratory experience and lecture in art therapy with children and/or adults. Includes assessment, planning goals and objectives, implementing the session, evaluating the session, case supervision, and the assessment of and development of therapeutic skills. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

Equivalent: CED 7150, RCI 7430

AED 7700 Advanced Graduate Problems Cr. 3-12

Pursuit of specific problems in depth. Laboratory hours coordinated with regularly scheduled classes in the selected area. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

Repeatable for 12 Credits

AED 7890 Art Therapy Internship Cr. 1-6

Supervised advanced internship of 600 hours in the practice of art therapy with individuals, groups and/or families; includes regular seminar in which art therapy methods in various fields are explored. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CED 7020, RCI 7460

Repeatable for 6 Credits

AET - ALTERNATIVE ENERGY TECHNOLOGY

AET 5110 Fundamental Fuel Cell Systems Cr. 4

Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: CHE 5110, EVE 5130, ME 5110

AET 5120 Fundamentals of Alternative Energy Technology Cr. 4

Cover engineering fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ME 5120

AET 5150 Advanced Energy Storages Cr. 4

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. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

Equivalent: EVE 5150

AET 5250 Alternative Energy Technology System and Design Cr. 4

Topics such as: batteries, flywheels, capacitors, motors, controllers, power management, heat dissipation, systems containment, manufacturing processes, systems dynamics. Lectures and design projects. Offered Fall.

Prerequisites: ([AET 5120])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

AET 5310 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4

Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: CHE 5120, EVE 5120, ME 5215

AET 5330 Modeling and Control of Power Electronics and Electric Vehicle Powertrains Cr. 4

Basic methodologies for modeling, control system design, system coordination, and optimization of renewable power sources and power electronics systems. Offered Winter.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ECE 5330, EVE 5430

AET 5410 Energy, Emissions, Environment (E3) Design Cr. 4

Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources including US EPA, DOE, EIA, and the latest in emerging research. Offered Fall.

Equivalent: CE 5410, STE 5410

AET 5510 Introduction to Photovoltaics Cr. 4

Basic theories of semiconductor materials and solar cells. Several types of solar cell materials and their structures. Vacuum deposition techniques and PV systems. Offered Fall.

AET 5600 Alternative Energy Product Realization System Cr. 4

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. Offered Fall.

Equivalent: EVE 5600, IE 6405

AET 5640 Energy and the Environment Cr. 4

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. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior.

Equivalent: EVE 5640

AET 5700 Process and Materials Safety for Alternative Energy Technology Cr. 4

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. Offered Winter.

Equivalent: CHE 5700

AET 5810 Power Management for Advanced Energy Storage Systems and its Applications Cr. 4

Operating principles and modeling of energy storage techniques; control and power management, power electronic converters, electric machines, and power systems; power management strategies of hybrid energy systems including HEV and alternative energy systems. Offered Fall, Winter.

Prerequisites: ([ECE 4470])

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: EVE 5810

AET 7410 Alternative Fuels: Properties, Processing, and Characterization Cr. 4

Exploration of the latest alternative fuels: their physical and chemical properties, production technologies, and standardization characterization tests. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHE 7410

AET 7990 Directed Study Cr. 1-4

Independent projects on subjects of interest in advanced energy technology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

AET 7991 Internship in Industry Cr. 1-4

Industrial internship in alternative energy technology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

AET 8996 Directed Research Cr. 1-4

Independent research projects. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

AFA - ART: DESIGN AND MERCHANDISING

AFA 2410 Textiles Cr. 3

Introduction to fibers, yarns, fabric construction, design and finishes and how they relate to selection, use and care of textile products. Offered Fall, Winter.

Course Material Fees: \$35

AFA 2420 Fashion Design: Basic Construction Cr. 3

Application of color and design principles in construction of structured and unstructured garments. Offered Fall, Winter.

Course Material Fees: \$65

AFA 3400 Clothing and Culture Cr. 3

Functions and meanings of dress in diverse cultures and contemporary society with an interdisciplinary approach. Offered Fall.

AFA 3410 Textile Performance Analysis Cr. 3

Recent technological developments; introduction to textile testing, product analysis and industry specifications. Offered Winter.

Prerequisites: ([AFA 2410])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Course Material Fees: \$40

AFA 3420 Fashion Design: Advanced Construction Cr. 3

Advanced methods of garment construction and fitting techniques. Development of skills in garment fit, shape and finish techniques. Introduction to flat pattern manipulation to create custom bespoke garments. Offered Fall.

Prerequisites: ([AFA 2410 with a minimum grade of D-]) AND ([AFA 2420 with a minimum grade of D-])

Course Material Fees: \$65

AFA 3460 Introduction to Merchandising Cr. 3

Psychological, economic considerations. Terminology and structure of the fashion industry and career opportunities. Offered Fall, Winter.

AFA 3470 Merchandise Information Cr. 3

Quality and value in merchandising. Manufacturing processes, government regulations and selling points in hard and soft lines. Offered Winter.

AFA 4430 Fashion Illustration Cr. 3

Basic fashion rendering techniques using a variety of media. Offered Biannually.

Prerequisites: ([ADR 1050])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Course Material Fees: \$40

Repeatable for 6 Credits

AFA 4460 Aesthetics of Apparel Design and Merchandising Cr. 3

Apparel design visual literacy and communication course with application to a range of products with aesthetic/design components. Computer-aided design applied to product development and presentation of apparel. Offered Winter.

Prerequisite: AFA 2410 with a minimum grade of C- and AFA 2420 with a minimum grade of C- and AFA 3460 with a minimum grade of C-

Course Material Fees: \$40

AFA 4990 Directed Study Cr. 2-4

Offered Every Term.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Repeatable for 4 Credits

AFA 5422 Fashion Design: Flat Pattern Cr. 3

Original designs from a basic sloper. Offered Yearly.

Prerequisites: ([AFA 2410 with a minimum grade of D-])

Course Material Fees: \$25

Repeatable for 9 Credits

AFA 5430 History of Costume Cr. 3

Survey of historic costumes from prehistoric to present. Emphasis on influence of social factors. Offered Fall.

AFA 5442 Fashion Design: Draping Cr. 3

Creation of original garments by draping on half-scale and standard-size dress forms. Offered Irregularly.

Course Material Fees: \$65

Repeatable for 9 Credits

AFA 5452 Fashion Design: Tailoring Cr. 3

Tailoring techniques applied to coats and suits. Offered Fall.

Prerequisites: ([AFA 2420 with a minimum grade of D-]) AND ([AFA 5422 with a minimum grade of D-]) AND ([AFA 5442 with a minimum grade of D-])

Course Material Fees: \$65

Repeatable for 6 Credits

AFA 5460 Merchandising II Cr. 3

Current trends in merchandising. Emphasis on global aspects. Offered Fall.

Prerequisites: ([AFA 3460])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 5470 Visual Merchandising: Display Cr. 3

Visual merchandising concepts and trends. Relationship of design elements and principles to the tools and structures used in display. Creative experimentation in the various media. Offered Fall, Winter.

Prerequisites: ([ACO 1200]) AND ([ACO 1230])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Course Material Fees: \$65

AFA 5472 Special Topics in Fashion Cr. 1-6

Application of unique printed and dyed fabrics to garment design. Surface design processes and motif development relating directly to clothing design are stressed, along with advanced garment construction techniques. Offered Spring/Summer.

Prerequisites: ([AFA 2420 with a minimum grade of D-]) AND ([AFI 2660 with a minimum grade of D-])

Course Material Fees: \$60

Repeatable for 12 Credits

AFA 5490 Economics of Merchandising Cr. 3

Application of merchandising principles and systematic planning to achieve profit goals. Offered Winter.

Prerequisites: ([AFA 3460])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 5992 Supervised Field Experience Cr. 3

Supervised field experience designed to correlate classroom theory with practical work. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Repeatable for 6 Credits

AFA 5997 Seminar Cr. 3

Topics to be announced in Schedule of Classes. Course satisfies the General Education Writing Intensive Course in the Major requirement.

Offered for undergraduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Design and Merchandising; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 6440 Computer-Aided Design for Apparel Design Cr. 3

Use of computer-aided design software applied to apparel design concepts; garment designing, grading, and marker-making. Offered Winter.

Prerequisites: ([AFA 5440])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Course Material Fees: \$40

AFA 6993 Study Tour Cr. 3

Group tour to major market sources; observation and analysis of products and marketing procedures. Topics to be announced in Schedule of Classes. Offered Biannually (Spr/Sum).

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

AFA 7410 Practicum in Textile Testing Cr. 3

Recent developments in textiles and quality assurance practices. Standardized testing methods to determine textile properties and performance. No credit after AFA 3410. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Course Material Fees: \$25

AFA 7850 Seminar Cr. 3

Development and practice of the research process and effective writing skills. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 7990 Directed Study Cr. 1-4

Individual projects. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

Repeatable for 8 Credits

AFI - ART: FIBERS

AFI 2650 Beginning Weaving Cr. 3

Weaving techniques on a frame loom. Design concepts through application of tapestry, flossa, sumac, inlay and wrapping process. Exploring fabric weaving by using simple weave patterns. Offered Every Term.

Course Material Fees: \$135

AFI 2660 Introduction to Fabric Printing and Dyeing Cr. 3

Emphasis on color, design, composition. Printing with found objects, stencil, silk screen resist method working with pigment and reactive dye. Offered Every Term.

Course Material Fees: \$110

AFI 3640 Digital Textile Design Cr. 3

Explore textile design by researching current print and pattern trends in the apparel industry, gaining knowledge and inspiration. Develop innovative pattern collections using original artwork in Adobe Photoshop and Illustrator. Access to the most recent version of Adobe Photoshop and Illustrator is required for this class. Offered Winter.

Prerequisites: ([ACO 1200 with a minimum grade of D-]) AND ([ADR 1050 with a minimum grade of D-])

Course Material Fees: \$92

AFI 3650 Intermediate Weaving and Fiber Arts Cr. 3

Design on four- and eight-harness looms, off loom construction techniques, and pattern development. Traditional and computerized pattern drafting/development, layer weaving, woven shibori, ikat, crochet, sprang, felting, and other fiber art techniques will be offered on a rotating basis. Offered Every Term.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$135

AFI 3660 Intermediate Fibers: Printing and Dyeing Cr. 3

Continuation of AFI 2660. Deeper study of fiber reactive dye; beginning of development of personal style. Offered Every Term.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$110

Repeatable for 6 Credits

AFI 5650 Weaving: Senior Project Cr. 3

Directed project in weaving. Research and written evaluative statement required. Offered Every Term.

Prerequisites: ([AFI 3650])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$135

Equivalent: AFI 3650, AFI 7650

Repeatable for 6 Credits

AFI 5660 Fabric Printing and Dyeing: Senior Project Cr. 3

Extensive project or series of works determined by student; research and written statement. Offered Every Term.

Prerequisites: ([AFI 3660])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$110

Repeatable for 6 Credits

AFI 5870 Directed Projects: Fibers Cr. 3-6

Individual problems. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

Repeatable for 998.99 Credits

AFI 7650 Graduate Problems in Weaving Cr. 3

Advanced problems in weaving. Offered Every Term.

Prerequisites: ([AFI 5650])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$40

Repeatable for 9 Credits

AFI 7660 Graduate Problems: Fabric Printing and Dyeing Cr. 3

Individual problems in fibers. Offered Every Term.

Prerequisites: ([AFI 5660])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$40

Repeatable for 9 Credits

AFI 8860 MFA Studio: Fibers Cr. 3-9

Supervised creative work done in the major concentration. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Art; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$40

Repeatable for 36 Credits

AFS - AFRICAN AMERICAN STUDIES

AFS 1010 Introduction to African American Studies Cr. 3

An interdisciplinary approach to exploring several broad issues, topics, theories, concepts and perspectives which describe and explain the experiences of persons of African descent in America, the Continent, and the diaspora. Offered Every Term.

AFS 2010 African American Culture: Historical and Aesthetic Roots Cr. 4

Examination of the historical, traditional and aesthetic bases of a variety of cultural forms -- language, literature, music -- of the Black experience. Offered Every Term.

AFS 2210 Black Social and Political Thought Cr. 4

Survey of the Black intellectual and political tradition from the United States, the Caribbean and Africa. Offered Every Term.

AFS 2245 Blacks and Sport in the United States Cr. 3

Examination of the intersection between race and sport in the United States in order to better understand the role of sport in socialization and culture constructions. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: SOC 2245

AFS 2250 AfroLatino/a History and Culture Cr. 3

Interdisciplinary introduction to the history and culture of AfroLatinos/as in the U.S. from the perspective of the African Diaspora in the Americas. Offered Winter.

Equivalent: LAS 2250

AFS 2350 Black Detroit Cr. 3

Explores the historical, cultural and structural aspects of the Black urban experience in Detroit from the late 19th Century to the present, including the role that racism, urbanization and suburbanization have played in shaping racial, spatial and economic inequality in the Detroit Metropolitan area. Utilizes an interdisciplinary approach: to interrogate the social and cultural history of Black Detroit, to examine the various forms of Black social movement activism used by Black Detroiters in the 20th Century, and to analyze ways the shifting economic and political currents shaped, and reshaped racism, class, space, and resistance in the Detroit metropolitan area. Offered Fall, Winter.

Equivalent: HIS 2350, US 2350

AFS 2390 Introduction to African-American Literature: Literature and Writing Cr. 3

Introduction to major themes and some major writers of African-American literature, emphasizing modern works. Reading and writing about representative poetry, fiction, essays, and plays. Offered Every Term.

Prerequisites: ([ENG 1020 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

Equivalent: ENG 2390

AFS 2600 Race and Racism in America Cr. 3

Examination of the nature and practice of racism in American society from its historical foundations to its contemporary institutional forms. Offered Biannually.

Equivalent: SOC 2600

AFS 3140 African American History I: 1400-1865 Cr. 3-4

African origins of African Americans; transition from freedom to slavery; status of African Americans under slavery. Offered Fall.

Equivalent: HIS 3140

AFS 3150 African American History II: Reconstruction to 1968 Cr. 3-4

African American history from Reconstruction through the Civil Rights Movement. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3150

AFS 3155 African American History III: from 1968 to the present Cr. 3-4

History of African Americans' struggle against persistent and stubborn racism, efforts to achieve full citizenship, and legal and economic justice after 1968. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3155

AFS 3160 Black Urban History Cr. 4

Historical experience of African Americans in urban areas; impact of their communities on urban development from 1860 to contemporary times. Offered Biannually.

Equivalent: HIS 3160

AFS 3170 Ethnicity and Race in American Life Cr. 3-4

Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the "Other"? What is an "American"? Offered Biannually.

Equivalent: HIS 3170

AFS 3180 Black Social Movements Cr. 4

Survey of mass or popular Black movements with emphasis on their political and cultural impact, historical continuity and organization. Offered Yearly.

Equivalent: HIS 3180

AFS 3200 The African-American Film Experience Cr. 4

Historical and contemporary portrayals of African American people in narrative and documentary film. Emphasis on filmic approaches to race relations, cinematic elaboration of racial stereotypes, and legitimation functions of film. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: COM 3230

AFS 3230 The Civil Rights Movement Cr. 3

Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3230

AFS 3250 Politics and Culture in Anglophone Caribbean Cr. 3

Survey of political, economic and cultural life of the Caribbean. Relationship of the Caribbean to U.S. and world political and cultural developments. Interdisciplinary approach: historical, comparative, thematic issues. Offered Yearly.

AFS 3360 Black Workers in American History Cr. 4

Survey course. Slave and free workers during antebellum period; skill trades, sharecropping, menial labor, coal mining during Reconstruction; labor struggles and job discrimination in the twentieth century. Offered Fall, Winter.

Equivalent: HIS 3360

AFS 3420 Pan Africanism: Politics of the Black Diaspora Cr. 4

Interplay of Pan Africanism as a cultural and socio-political movement in world politics from its origins as a concept to organizing practice worldwide. Offered Yearly.

Equivalent: PS 3820

AFS 3500 Special Topics Cr. 3

Specialized and topical studies in historical events, personalities and themes. Topics to be announced in the schedule of classes. Offered Every Term.

Repeatable for 9 Credits

AFS 3610 Interdisciplinary Perspectives on Foreign Culture: The Africans Cr. 4

Humanistic aspects, history, socio-cultural institutions of African cultures; theory and methods, comparativist perspectives. Offered Yearly.

AFS 3750 African American Art Cr. 3

Introduction to African American art from the colonial period to the present, with emphasis on the U.S. and some attention to South and Central America and the Caribbean. Offered Yearly.

Prerequisites: ([AH 1000 with a minimum grade of D-])

Equivalent: AH 3750

AFS 3760 Art of the African Diaspora Cr. 3

Examines art of the African Diaspora and how this history of dissemination affected art making in various geographical, cultural, and sociopolitical paradigms. Offered Fall.

Equivalent: AH 3760

AFS 4040 Diversity in Interpersonal Communication Cr. 3

Issues and topics related to the study of communication behaviors and patterns in gender, race, social class, and sexual orientation within the United States. Offered Yearly.

Equivalent: COM 4040

AFS 4240 African Americans in Television Cr. 4

Historical overview of African Americans in radio and television with emphasis on three areas of study: news and documentary; entertainment and advertising; and ownership, employment and access. Offered Yearly.

Equivalent: COM 4240

AFS 5030 African American Politics Cr. 4

Nature and texture of Black politics; various perspectives on politics by Blacks; the impact of Blacks on American politics. Offered Yearly.

Equivalent: PS 5030

AFS 5110 Black Women in America Cr. 3

Social, cultural, artistic and economic development of Black women in America; topics include: racism, sexism, marriage, motherhood, feminism, and the welfare system. Offered Yearly.

Equivalent: GSW 5110

AFS 5220 Black Dramatic Literature and Performance Cr. 3

Critical study of significant Black dramatists of the American stage: Willis Richardson, Marita Bonner, Randolph Edmonds, Langston Hughes, Alice Childress, Lorraine Hansberry, Ed Bullins, Amiri Baraka, Ntozake Shange, and August Wilson. Offered Yearly.

Course Material Fees: \$10

Equivalent: THR 5821

AFS 5230 The Civil Rights Movement Cr. 3

Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: HIS 5235

AFS 5241 American Slavery Cr. 4

Rise, expansion, and demise of slavery in the United States. Study of the five generations of Americans who lived with this institution; the unique imprint of slavery on American history and collective memory. Offered for undergraduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

AFS 5261 African Americans, History and Memory Cr. 4

Exploration of the re-presentations of African American history that are seen, read, and interpreted by a popular audience; investigation of U.S. collective memory of African American history. Offered Fall.

Equivalent: HIS 5261

AFS 5310 Special Topics in African American Studies Cr. 3-4

Topics to be announced in Schedule of Classes; topics may include: Caribbean politics, African development, male-female relationships, Negritude. Offered Every Term.

Repeatable for 12 Credits

AFS 5570 Race Relations in Urban Society Cr. 3

Theoretical orientations applied analytically to enhance an understanding of the patterned structures of privilege in society which are based on race. Inequality, segregation-desegregation, pluralism; social structural frameworks; some attention to social-psychological aspects of topics such as prejudice and racism. Offered Irregularly.

Equivalent: SOC 5570

AFS 5580 Law and the African American Experience Cr. 4

In-depth examination of the African American experience with law in the U.S.; historical development of the U.S. Constitution; legal barriers to equality and the influence of race on the law; use of law as a political instrument; participation of Blacks in the legal process; comparisons with other countries. Offered Biannually.

Equivalent: SOC 5580

AFS 5700 The Psychology of African Americans Cr. 4

Methodological approaches to and theories of Black behavior and personality development. Topics include: race and pathology, life-span and psycho-sexual development, personality formation, social and environmental stress and adaptation. Offered Every Term.

Equivalent: PSY 5700

AFS 5740 Ethnicity: The Politics of Conflict and Cooperation Cr. 4

Current ethnic (racial, linguistic, religious, and cultural) conflicts regionally, nationally and internationally. Introduction to concepts and analytic perspectives for understanding ethnicity as a factor in nation building and maintenance. Offered Yearly.

Equivalent: PCS 5500, PS 5740

AFS 5991 Field Work in the Black Community Cr. 3-8

Field placement in community-based, human services, and civic organizations and governmental agencies. Offered for undergraduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Africana Studies; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts degree.

AFS 5993 Writing Intensive Course in African American Studies Cr. 0

Disciplined writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for African American Studies majors. Offered Every Term.

Prerequisite: AFS 3160 (may be taken concurrently) with a minimum grade of C- or AFS 3180 (may be taken concurrently) with a minimum grade of C- or AFS 3200 (may be taken concurrently) with a minimum grade of C- or AFS 3250 (may be taken concurrently) with a minimum grade of C- or AFS 3420 (may be taken concurrently) with a minimum grade of C- or AFS 3610 (may be taken concurrently) with a minimum grade of C- or AFS 5110 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in African American Studies; enrollment is limited to Undergraduate level students.

AFS 6100 Class, Race, and Politics in America Cr. 3

Historical and analytic investigation into the role of class and race in American politics. Offered Irregularly.

Equivalent: HIS 5110, PS 6050, SOC 7330, UP 7030

AFS 6170 Studies in Ethnicity and Race in American Life Cr. 3-4

Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the "Other"? What is an "American"? Offered Biannually.

Equivalent: HIS 6170

AFS 6455 Discrimination and Fair Housing Cr. 3

Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Biannually.

Equivalent: ECO 6455, PS 6455, SOC 6455, UP 6455, US 6455

AFS 6600 Urban Poverty and Racial Segregation Cr. 3

Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on 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. Offered for graduate credit only. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANT 7260, PS 7260, SOC 7350, UP 7260

AFS 6990 Directed Study Cr. 3-8

Reading and research projects. Offered Yearly.

AFS 7241 Readings in American Slavery Cr. 4

Rise, expansion, and demise of slavery in the United States. Study of the five generations of Americans who lived with this institution; the unique imprint of slavery on American history and collective memory. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

AGD - ART: GRAPHIC DESIGN

AGD 2230 Introduction to Typography: Skills and Concepts Cr. 3

Introduction to typography through the use of digital and hand craft skills and conceptual framing for working with letter forms and the layout of text. Assignments and demonstrations to develop thinking and making abilities. Offered Fall, Winter.

Course Material Fees: \$90

AGD 2240 Introduction to Graphic Design: Skills and Concepts Cr. 3

Introduction to graphic design skills (digital and analog) and concepts necessary for working with images and type. Assignments and demonstrations will develop design thinking and creative abilities. Offered Fall, Winter.

Course Material Fees: \$90

AGD 2250 Typography Cr. 3

Fundamental understanding of structure, history, technology and application of typography, the visualization of language. Functional and experimental aspects of typography; typographic syntax and hierarchies. Offered Fall, Winter.

Prerequisites: ([AGD 2230]) AND (May be taken concurrently: [AGD 2240]) AND ([ACO 1200] OR [ACO 1230] OR [ACO 1270])

Course Material Fees: \$90

AGD 3250 Graphic Design I: Principles and Problem Solving Cr. 3

Visual communication issues and applications: design methodology, problem-solving, relation of form to meaning, type/image relationships. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [AGD 2230]) AND ([AGD 2240]) AND ([ACO 1200] OR [ACO 1230] OR [ACO 1270])

Restriction(s): Enrollment is limited to students with a major in Art or Art Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

AGD 3260 Introduction to Interactivity Cr. 3

Exploration of a variety of art-making strategies that utilize digital technologies and interactive media; emphasis on computer-based and online art practices and web-oriented programming languages. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$145

Equivalent: ADA 3220

AGD 3700 History of Graphic Design Cr. 3

History of the discipline of graphic design from its early practices to the present, with an emphasis on technological and theoretical advances that took place during the twentieth century. Offered Winter.

Prerequisite: AGD 2230 with a minimum grade of D- and AGD 2240 with a minimum grade of D-

AGD 4250 Graphic Design II: Word, Image, and Visual Organization Cr. 3

Students apply knowledge of typography and visual design principles to specific design situations; emphasis on use of grid systems. Offered Yearly.

Prerequisites: (2 of ACO 1200, ACO 1230, ACO 1270) AND ([AGD 2230]) AND ([AGD 2240]) AND ([AGD 2250]) AND ([AGD 3250])

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major in Art or Art Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

AGD 4260 Professional Practice Cr. 3

Preparation for working professionally as a graphic designer including portfolio and resume development, working with clients, budgets, and schedules. Offered Yearly.

Prerequisites: ([AGD 2240 with a minimum grade of D-]) AND ([AGD 3250 with a minimum grade of D-]) AND ([AGD 4250 with a minimum grade of D-])

Course Material Fees: \$55

AGD 5250 Graphic Design III: Complexity and Variety in Design Cr. 3

Complex design situations. Research and methodology. Project may include package design, instruction manuals, book and brochure design, publication design. Offered Fall, Winter.

Prerequisites: ([AGD 2240 with a minimum grade of D-]) AND ([AGD 2250 with a minimum grade of D-]) AND ([AGD 3250 with a minimum grade of D-]) AND ([AGD 4250 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$90

AGD 5260 Senior Seminar Cr. 3

Issues affecting the theory, history, and practice of design; impact of design on society and impact of society on design. Required readings, student presentations, class discussion, slide lectures, guest speakers. Satisfies the General Education Writing Intensive Course in the Major requirement. Offered Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$50

AGD 5700 Special Topics Cr. 3

Examination of specific issue in design theory, history or practice. Topics may include: corporate identity, globalization of design, exhibition design, design history. Offered Spring/Summer.

Prerequisites: ([AGD 3250 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$90

Repeatable for 15 Credits

AGD 5890 Directed Projects: Graphic Design Cr. 3-6

Individual problems. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$90

Repeatable for 12 Credits

AGD 5990 Field Study: Internship Cr. 3

Supervised field experience designated to correlate classroom theory with practical work. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$30

Repeatable for 6 Credits

AGD 5997 Senior Studio Cr. 3

Extended student projects such as identity systems with various applications, families of package design, series of form design, or poster series. Possible collaborative projects; extensive research. Offered Fall, Winter.

Prerequisites: (2 of ACO 1200, ACO 1230, ACO 1270) AND (2 of AGD 3000-6999) AND ([AGD 2230]) AND ([AGD 2240]) AND ([AGD 2250]) AND ([AGD 3250]) AND ([AGD 4250])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$90

AGD 6260 Advanced Typography Cr. 3

Advanced and experimental typography; typography as an expressive language in 2-D and 3-D; projects in information design. Offered Irregularly.

Prerequisites: ([AGD 4250 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$90

AGD 7250 Graduate Problems in Graphic Design Cr. 3-9

Individual problems in advanced advertising design. Offered Fall, Winter.

Prerequisites: ([AGD 5250 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Course Material Fees: \$90

Repeatable for 24 Credits

AGD 8850 MFA Studio: Graphic Design Cr. 3-9

Extended problems in graphic design; individual research with 18 to 27 hours of laboratory per week. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$200

Repeatable for 36 Credits

AH - ART HISTORY

AH 1000 Introduction to Art Cr. 3

An introductory survey of art and culture designed to equip students to look purposefully, critically, and contextually at images and events, mindful of the ways that meaning is produced and perceived. Offered Every Term.

AH 1110 Survey of Art History: Ancient through Medieval Cr. 3-4

Survey of traditions and major developments in visual expression in the West, prehistory through Medieval period. Art studied in context of its cultures; techniques of visual analysis. Offered for four credits only to Honors students. Offered Every Term.

AH 1120 Survey of Art History: Renaissance through Modern Cr. 3-4

Traditions and developments in visual expression in the West, Renaissance through twentieth century. Art in context of its cultures; techniques of visual analysis. Offered for four credits only to Honors students. Offered Every Term.

AH 1130 Encounters with the Arts of Global Africa Cr. 3

Introductory survey of the arts of Africa and the African Diaspora, focusing on the visual culture of cross-cultural contact within Africa and beyond. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

AH 3070 Art and Archeology of Ancient Egypt Cr. 3

An introduction to the history and development of Egyptian artistic style in architecture, sculpture, painting and the applied arts; historical, social and religious background. Offered Irregularly.

AH 3150 The Arts of Africa: Local and Global Visions Cr. 3

Traditional, modern and contemporary arts of Africa, as well as the impact of African culture on the Americas. Emphasis on global politics of intercultural contact between Africa and the West. Offered Fall.

Prerequisites: ([AH 1110 with a minimum grade of C-]) AND ([AH 1120 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

AH 3240 Mythology in Greek Art Cr. 3

The myths of the Greeks as they appeared on painted vases, and the strategies of visual storytelling employed. Offered Irregularly.

AH 3410 Medieval Art and Architecture Cr. 3

Monasticism as a driving force in medieval culture; art and architecture produced by and for Christian religious communities, A.D. 300-1400. Offered Irregularly.

Prerequisites: ([AH 1110])

AH 3470 Islamic Art and Architecture Cr. 3

Survey of art and architecture of Islam from its origins in the seventh century to the Ottoman Empire. Offered Irregularly.

AH 3560 Special Topics Cr. 3

Students examine specific issues related to art history. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 12 Credits

AH 3650 Nineteenth-Century European Art and Architecture Cr. 3

Introduction to European art and architecture from 1780 to 1900; survey of major developments in 19th century painting, sculpture, printmaking and photography. Offered Fall, Winter.

AH 3700 Contemporary Art Cr. 3

Introduction for studio art majors: ideas and styles of modern art. The gap between those who make art and those who write about it. Access to the discipline of art history through tracing the origins of a variety of contemporary art practices. Offered Yearly.

Prerequisites: ([AH 1000])

AH 3750 African American Art Cr. 3

Historical inquiry of African American art from the eighteenth century to today. Offered Yearly.

Equivalent: AFS 3750

AH 3760 Art of the African Diaspora Cr. 3

Examines art of the African Diaspora and how this history of dissemination affected art making in various geographical, cultural, and sociopolitical paradigms. Offered Fall.

Equivalent: AFS 3760

AH 5130 The African City: Art and the Politics of Place Cr. 3

Exploration of key issues in the study of Africa's urban cultures. Focuses on the art and architecture of historical cities and considers the ways in which global African cities shape contemporary artistic practice. Offered Every Term.

Prerequisites: ([AH 1110 with a minimum grade of D-] OR [AH 1120 with a minimum grade of D-] OR [AH 1130 with a minimum grade of D-])

AH 5210 Hellenistic Art Cr. 3

Sculpture, painting and architecture of the Greek world from Alexander the Great to Cleopatra. Offered Irregularly.

AH 5250 Ancient Rome Cr. 3

Development of Rome into an imperial capital. Design, function and political significance of public monuments in the city. Offered Irregularly.

AH 5260 Classical Greek Art Cr. 3

Greek painting, sculpture and architecture of the fifth and fourth centuries B.C. Emphasis on decorative programs of temples and cult statues. Offered Irregularly.

AH 5270 Roman Painting and Sculpture Cr. 3

Painting and sculpture of the Roman Republic and Empire, and their cultural context. Offered Yearly.

AH 5310 The Ancient City of Athens Cr. 3

The history of Athens as an urban center in antiquity. Public monuments, buildings and landscape as reflecting the city's aspirations and fortunes. Offered Irregularly.

AH 5450 Art and Architecture in the High Middle Ages Cr. 3

Art and architecture in western Europe, 1050-1250. Development of Romanesque and Gothic styles in architecture, painting, and sculpture. Offered Irregularly.

AH 5500 Early Renaissance in Italy Cr. 3

Art and architecture from Giotto to Botticelli; transformation of late medieval art prior to Black Death, classical revival in Florence; North Italian artists such as the Bellinis and Mantegna. Offered Biannually.

AH 5510 High Renaissance and Mannerism in Italy Cr. 3

The art of Leonardo, Raphael, Michelangelo, Titian, and their contemporaries. Offered Irregularly.

AH 5520 Art of Renaissance Venice Cr. 3

Art of fifteenth and sixteenth century Venice considered in its socio-political milieu. Offered Biannually.

AH 5560 Special Topics Cr. 3

Students examine specific issues related to art history. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 12 Credits

AH 5570 Performance Art of the Americas Cr. 3

Explores Performance Art created in North, Central, and South America, as well as in the Caribbean. Performance Art is a Western visual art movement in which the artist's body is the primary medium of expression, and this art form's evolution will be examined from the late nineteenth to the twenty-first centuries. Offered Fall.

AH 5710 Trends in Nineteenth Century Art Cr. 3

Topics to be announced in Schedule of Classes. Offered Biannually.

AH 5715 Modernism: Nineteenth and Twentieth Centuries Cr. 3

Origins of Modernism in the mid-nineteenth century; avant-garde art in Europe and the U.S. from 1850 to 1950; theories of Modernism in the visual arts. Offered Biannually.

AH 5720 Twentieth Century Art Cr. 3

European and American paintings, sculpture, and new media surveyed from 1900 to present. Offered Biannually.

AH 5735 Art 1900-1945 Cr. 3

European and American avant-garde art, Dada and Surrealism, the interwar period, and Abstract Expressionism. Offered Biannually.

AH 5780 Topics in Twentieth-Century Art Cr. 3

Topics to be announced in Schedule of Classes. Offered Yearly.

Repeatable for 12 Credits

AH 5855 Museum Practicum Cr. 3

Cooperative arrangement between the art history program and the Detroit Institute of Arts, in which the student applies art historical training to a current project or exhibition in the museum. Offered Biannually.

AH 5990 Directed Study Cr. 1-3

Supervised advanced reading and research in the history of art. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Master of Arts degrees.

Repeatable for 6 Credits

AH 5993 Writing Intensive Course in Fine Arts Cr. 0

Required for all majors. Offered Fall, Winter.

Prerequisites: ([AH 1110 with a minimum grade of D-] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100]) AND ([AH 1120 with a minimum grade of D-]) AND ([AH 2000 with a minimum grade of D-]) AND (May be taken concurrently: [AH 3000 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

AH 5997 Seminar Cr. 3

Readings, discussion, and research paper on special topics in art history; topics to be announced in Schedule of Classes. Graduate students undertake research paper in addition to other assignments. Offered Yearly.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Repeatable for 9 Credits

AH 5998 Honors Thesis Cr. 3

Students write a substantial research paper on subject determined by the student in collaboration with his/her professor. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Art History Honors; enrollment is limited to Undergraduate level students.

AH 7200 Seminar in Greek and Roman Art Cr. 3-6

Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Repeatable for 9 Credits

AH 7300 Seminar in Medieval Art Cr. 3-6

Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Repeatable for 9 Credits

AH 7700 Seminar in Modern Art Cr. 3

Topics to be announced in Schedule of Classes . Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Repeatable for 6 Credits

AH 7999 Master's Essay Direction Cr. 1-3

Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art History; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

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

Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art History; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Repeatable for 8 Credits

AIA - ART: INTERIOR DESIGN

AIA 1610 Architectural Drafting and Perspective Drawing Cr. 3

Basic architectural drawings: plans, elevations, obliques, sections, details, dimensioning and lettering; hand-drawn and basic CAD techniques; development of perspective presentation drawings. Offered Winter.

Prerequisites: ([ADR 1050])

Course Material Fees: \$45

AIA 2600 Interior Design: CAD I Cr. 3

Continuation of computer-aided design. Plans, elevations, sections, details, dimensioning and description. System furniture space planning; Windows-based auto CAD. Offered Fall.

Prerequisites: ([AIA 1610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$45

AIA 2610 Interior Design Studio I Cr. 3

Single family residential/small-scale office. Presentation techniques; introduction to media and methods used in the preparation of presentation boards: layout, selection, rendering, plan, elevation, lettering and verbal presentation. Offered Fall.

Prerequisites: ([AIA 1610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$45

AIA 3610 Interior Design Studio II Cr. 3

Hospitality/restaurant/health care. Continuation of graphic and presentation skill development incorporating plan, elevation, section, detailing, perspective, hand and CAD drawings. Experimentation with lighting, media, board, and verbal presentation. Offered Winter.

Prerequisites: ([AIA 2610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$45

AIA 3620 Interior Design: CAD II Cr. 3

Intermediate-level CAD. Development and creation of construction documents, space planning of interior spaces, and systems layout, using autoCAD drafting techniques in two- and three-dimensional modes. Offered Winter.

Prerequisites: ([AIA 1610]) AND ([AIA 2600]) AND ([AIA 2610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$50

Repeatable for 12 Credits

AIA 4600 Environmental Design Theory Cr. 3

History of interiors: ergonomic, environmental elements. Introduction to building and barrier-free design codes. Acoustical, HVAC and electrical systems. Offered Fall.

Prerequisites: ([AIA 2610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$35

AIA 4610 Interior Design Studio III Cr. 3

Retail/contract open-office system, medium to large scale, new or adaptive reuse projects. Advanced hand and CAD graphic, presentation skill development, incorporating building and barrier-free codes, HVAC and lighting principles, furniture and equipment specification. Offered Fall.

Prerequisites: ([AIA 2600]) AND ([AIA 3610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$40

AIA 4620 Interior Perspective and Illustration Cr. 3

Visual perspective presentation techniques, including selection, construction, illustration of interior designs. Basic mechanical perspective layout and delineation techniques: pencil, pen, color marker and color pencil to relate effects of texture, volume, and light of interior space. Offered Fall.

Prerequisites: ([AIA 1610]) AND ([AIA 2610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$45

AIA 4990 Directed Study Cr. 2-4

Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$45

Repeatable for 6 Credits

AIA 5010 Furniture/Product Workshop Cr. 3

History, ergonomic and design development of furniture and product design. Projects evolve from hand and CAD drawings to scaled models of furniture and product designs. Offered Fall.

Prerequisites: ([AIA 1610]) AND ([AIA 2610]) AND ([AIA 5610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$55

Repeatable for 9 Credits

AIA 5610 Interior Materials and Systems Cr. 3

Estimating, specifying, and the techniques used in the application of materials and systems used in interior design. Lectures, guest speakers, and field trips. Offered Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$40

AIA 5620 Building Construction Systems in Architecture I Cr. 3

Residential and commercial construction systems incorporating governmental and building codes; site and foundation to roof systems; small-scale hand and CAD documentation of architectural details. Offered Fall.

Prerequisites: ([AIA 2610]) AND ([AIA 3610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$45

AIA 5630 Interior Lighting Design and Application Cr. 3

Lighting sources, fixtures, manufacturer's lighting system and application to interior spaces. Basic lighting footcandle calculations; layouts and psychology of lighting description to be applied in a final project. Offered Winter.

Prerequisites: ([AIA 3610]) AND ([AIA 4610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$40

AIA 5640 Building Construction Systems in Architecture II Cr. 3

Development of architectural construction documents: working drawings and written specifications of commercial interior space; plan, elevation, section, details and perspective through hand and CAD documentation. Offered Winter.

Prerequisites: ([AIA 2600]) AND ([AIA 4600]) AND ([AIA 4610]) AND ([AIA 5620])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$60

AIA 5660 Supervised Field Experience Cr. 3

Supervised field study experience designed to correlate classroom theory with professional practice. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Art or Art Honors; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$35

Repeatable for 6 Credits

AIA 5991 Directed Projects: Interior Design Cr. 3-6

Individual problems. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$60

Repeatable for 9 Credits

AIA 5997 Senior Seminar Cr. 3

Investigation of designers, styles, and periods of interior design through charrettes and documentation. Resume and portfolio development and review; writing of intensive research paper. Offered Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$60

AIA 6610 Interior Design Studio IV Cr. 3

Large-scale new or adaptive re-use: office, hospitality, health-care or retail interior spaces. Professional hand and CAD graphic and skill development. Integration of codes, ADA, human factors, HVAC and lighting principles, furniture and equipment specification related to specific environment. Offered Winter.

Prerequisites: ([AIA 4610]) AND ([AIA 5640])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$60

AIA 6650 Business Practicum Cr. 2

Examination of different types of business formations and their characteristics; professional practices and procedures, professional ethics, contemporary topics in interior design practice. Offered Fall.

Prerequisites: ([AIA 4610])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$60

AIA 7990 Directed Study Cr. 1-4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Course Material Fees: \$60

AID - ART: INDUSTRIAL DESIGN

AID 3200 Ethnographic Research Methods for Designers Cr. 3

Introduction to a set of theoretical and methodological approaches stemming from the field of anthropology. Students utilize these approaches to enrich and inform their design processes from conceptual creation, to ideation and design development, to user testing. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

AID 3300 Introduction to Industrial Design Cr. 3

Introduction to fundamental skills necessary for the practice of industrial design. Two-dimensional presentation techniques are developed in first half of semester; second portion consists of exercises in problem-solving methodology. Offered Fall, Winter.

Prerequisites: ([ACO 1200]) AND ([ADR 1050])

Course Material Fees: \$20

Repeatable for 6 Credits

AID 3310 Presentation Cr. 3

Two dimensional visualization, monochromatic and polychromatic sketch techniques using a variety of traditional media. Offered Fall, Winter.

Prerequisites: ([ACO 1200]) AND ([ADR 1050])

Repeatable for 9 Credits

AID 4300 Product Design Engineering Cr. 3

Students build on basic skills in projects exploring conceptual problem-solving in two dimensions. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Engineering or Fine, Performing & Comm. Arts.

Repeatable for 6 Credits

AID 4600 Transportation Design/Engineering Cr. 3

Conceptual projects related to transportation design, utilizing skills developed in AID 4300. Offered Winter.

Prerequisites: ([AID 4300])

Restriction(s): Enrollment limited to students in the College of Engineering.

Course Material Fees: \$20

AID 5300 Advanced Studio/Product Cr. 3

Advanced techniques in presentation of design solutions. Students build upon their ability to communicate two-dimensionally; introduction of digital manipulation and creation software. Offered Fall, Winter.

Prerequisites: ([AID 3300])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$20

Repeatable for 15 Credits

AID 5310 Advanced Presentation Cr. 3

Advanced techniques in the presentation of design solutions. Students build on their ability to communicate two-dimensionally, with introduction of digital manipulation and creation software. Offered Fall.

Prerequisites: ([AID 3310])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$100

Repeatable for 9 Credits

AID 5330 3-D Modeling Cr. 3

Principles of three-dimensional modeling. Surface development, rendering, and creation of virtual environments. Offered Fall.

Prerequisites: ([AID 3300])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$100

Repeatable for 9 Credits

AID 5997 Senior Seminar Cr. 3

Seminar on contemporary issues in industrial design including professional concerns in transportation and product design, presentation, and production. Satisfies the General Education Writing Intensive Course in the Major requirement. Offered Biannually.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

AID 6300 Advanced Studio: Transportation Cr. 3

Form and proportion studies. Development of sketch techniques for communicating the complex form of the automotive body. Taught by professional automotive designers. Offered Fall, Winter.

Prerequisites: ([AID 3300])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$20

Repeatable for 9 Credits

AID 6310 Advanced Studio/Exhibit Cr. 3

Advanced design concepts in exhibit design. Project planning, ideas of brand imaging, phenomenological notions of the spatial experience. Offered Fall.

Prerequisites: ([AID 5300])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

Course Material Fees: \$20

Repeatable for 9 Credits

AID 6330 History of Modern Design II Cr. 3

Major design trends in America and Europe from end of World War I through 1950s. Covers a broad spectrum of the applied arts. Offered Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees; enrollment limited to students in the Fine, Performing & Comm. Arts.

AID 7300 Graduate Industrial Design Cr. 3-9

Individual problems in industrial design. Offered Fall, Winter.

Prerequisites: ([AID 5300] OR [AID 6300])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Course Material Fees: \$20

Equivalent: AID 4600, AID 6300

Repeatable for 24 Credits

AME - ART: METALSMITHING

AME 2600 Introduction to Jewelry and Metalsmithing Cr. 3

Basic skills: sawing, filing, drilling, sanding, polishing, creating textures on metal, riveting, soldering, and bezel setting of stones. Creation of jewelry and small functional objects. Offered Every Term.

Prerequisites: ([ACO 1200]) AND ([ADR 1060])

Course Material Fees: \$75

AME 3600 Intermediate Jewelry I Cr. 3

Lost-wax casting and mold-making. Creating, preparing and casting into metal of wax models. Vulcanized rubber mold-making. Commercial jewelry techniques. Offered Every Term.

Prerequisites: ([AME 2600])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

AME 3601 Intermediate Jewelry II Cr. 3

Advanced metal fabrication and surface treatment. Topics include: stone setting techniques, acid etching, granulation, keum boo, patination, hinge mechanisms and more complex soldering techniques. Offered Fall, Winter.

Prerequisites: ([AME 3600])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

AME 4600 Metalsmithing I Cr. 3

Utilizing plastic qualities of metal to generate high relief forms. Techniques include: raising and sinking, anticlastic and synclastic raising, nonferrous and ferrous forging. How metals may be stretched to create forms with a high degree of volume. Offered Fall, Winter.

Prerequisites: ([AME 2600])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

AME 4601 Metalsmithing II Cr. 3

Utilizing plastic qualities of metal to generate high relief forms. Techniques include: raising and sinking, anticlastic and synclastic raising, nonferrous and ferrous forging. How metals may be stretched to create forms with a high degree of volume. Offered Fall, Winter.

Prerequisites: ([AME 4600])

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

AME 5600 Advanced Jewelry and Metalsmithing Cr. 3

Intellectual and conceptual nature of student's artwork; discussion and analysis. Methods of criticism. Offered Fall, Winter.

Prerequisites: ([AME 3601])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

AME 5860 Directed Projects: Metalsmithing Cr. 3-6

Individual problems. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Repeatable for 998.99 Credits

AME 7600 Graduate Study in Metal Arts Cr. 3

Individual problems. Directed study and project development in metal arts. Offered Fall, Winter.

Prerequisites: ([AME 5600])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 9 Credits

AME 8860 MFA Studio: Metal Arts Cr. 6-9

Extended problems in metalsmithing; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 36 Credits

AN - ANESTHESIA

AN 7010 Advanced Health and Physical Assessment and Clinical Anesthesia Practicum I Cr. 1

Advanced systematic focus on health assessment, anatomical and physical limitations, and impact on anesthesia practice. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

AN 7020 Clinical Anesthesia Practicum II Cr. 2

Continuation of AN 7010. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7030 Clinical Anesthesia Practicum III Cr. 2

Continuation of AN 7020. Offered Spring/Summer.

Prerequisites: ([AN 7020])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7040 Clinical Anesthesia Practicum IV Cr. 3

Continuation of AN 7030. Offered Fall.

Prerequisites: ([AN 7030])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7050 Clinical Anesthesia Practicum V Cr. 3

Continuation of AN 7040. Offered Winter.

Prerequisites: ([AN 7040])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7060 Clinical Anesthesia Practicum VI Cr. 2

Continuation of AN 7050. Offered Spring/Summer.

Prerequisites: ([AN 7050])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7070 Clinical Practice I Cr. 2

Outpatient anesthesia practice; focus on airway management. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Nur Anesthesia Pract program; enrollment is limited to Graduate level students.

AN 7080 Clinical Practice II Cr. 3

Managing complex pediatric cases involving craniofacial problems, craniotomies, spinal fusion, and abdominal cases. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Nur Anesthesia Pract program; enrollment is limited to Graduate level students.

AN 7090 Clinical Practice III Cr. 1

Clinical experience with complex cardiac diseases requiring thoracic and cardiopulmonary bypass. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7100 Pharmacology I Cr. 4

Pharmacology as it relates to anesthesiology; pharmacokinetics and pharmacodynamics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

AN 7110 Pharmacology II Cr. 3

Analysis of theories of pharmacology. Offered Winter.

Prerequisites: ([AN 7100])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

AN 7120 Advanced Pharmacology of Anesthesia Cr. 2

General qualitative and quantitative aspects of pharmacology. Interaction and kinetics of pharmacologic agents and their relationship to anesthetic practice. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7150 Principles of Anesthesia I Cr. 4

Principles and usage of all anesthesia equipment including electronic instrumentation. Theoretical exploration of various techniques of anesthesia. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

AN 7160 Principles of Anesthesia II Cr. 3

Advanced knowledge in application and use of modern anesthesia monitoring technology. Offered Winter.

Prerequisites: ([AN 7150])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

AN 7170 Principles of Anesthesia III Cr. 2

Continuation of AN 7160. Offered Spring/Summer.

Prerequisites: ([AN 7150])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

AN 7180 Electrocardiography in Anesthesia Practice Cr. 1

Background for monitoring, diagnosing, and treating cardiac arrhythmias in the perioperative period. Working background in fundamentals of 12-lead ECG interpretation; its application in the perioperative period. Offered Winter.

Prerequisites: ([AN 7150])

Restriction(s): Enrollment limited to students in the MS in Anesthesia program; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$12.5

AN 7190 Advanced Cardiovascular Patho-physiology and EKG Cr. 1

Advanced cardiovascular pathophysiology, assessing and diagnosing cardiac dysfunctions, and integration of appropriate clinical interventions in the anesthetic management plan of care. Offered Fall.

Prerequisites: ([AN 7180 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$12.5

AN 7240 Advanced Physiology and Pathophysiology Cr. 2

Advanced knowledge in physiology; in-depth analysis of disease processes; correlation of pathophysiology, pharmacology, and advanced principles of anesthesia care. Offered Spring/Summer.

Prerequisites: ([PSL 7030 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

AN 7500 Chemistry and Physics of Anesthesia Cr. 2

Analysis and principles of chemistry and physics as applied to anesthesia. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

AN 7590 Advanced Anatomy for Nurse Anesthetists Cr. 4

Structural and functional aspects of the human body; relationships to nurse anesthesia practice. Study of regions in which anesthesia may be induced. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$400

AN 7600 Regional Anesthesia Cr. 2

Review of the anatomy and physiology of the spinal cord and peripheral nerves and the pharmacology of local anesthetic agents. Techniques of pain management administration and management of spinal/epidural and peripheral regional anesthetics. Offered Spring/Summer.

Prerequisite: AN 7590 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

AN 7620 Pulmonary Mechanics and Anesthesia Implications Cr. 2

Advanced evaluation of cardiopulmonary/respiratory complication. Clinical anesthesia care. Offered Fall.

Prerequisites: ([AN 7200])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7690 Advanced Clinical Anesthesia Practice Review I Cr. 1

Use of theoretical concepts and advanced clinical principles to develop the art and science of practice with emphasis on individualizing care, in addition to board preparation. Offered Winter.

Prerequisites: ([AN 7170 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

AN 7700 Advanced Clinical Anesthesia Practice and Review II Cr. 1

Use of theoretical concepts and advanced clinical principles in perfecting the art and science of anesthesia practice with emphasis on preparation for board examination. Offered Winter.

Prerequisites: ([AN 7170 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

AN 7730 Process of Teaching Cr. 2

Advanced teaching and learning concepts. Understanding diversity in the classroom, and learning styles. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Nur Anesthesia Pract program; enrollment is limited to Graduate level students.

Course Material Fees: \$20

AN 7780 Professional Dimensions of Anesthesia Practice Cr. 3

Advanced knowledge in professional growth and development . Understanding the foundations and development of professional organizations, professionalism and the value of clinical services for professional growth. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Nur Anesthesia Pract program; enrollment is limited to Graduate level students.

Course Material Fees: \$15

AN 7800 Pain Management for Nurse Anesthetists Cr. 1

Regional techniques and pharmacological interventions to manage acute and chronic pain. Offered Spring/Summer.

Prerequisites: ([AN 7600 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

AN 7880 Anesthesia Seminar Cr. 1

Current developments in concepts and theories of nurse anesthesia. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 5 Credits

AN 7885 Research Design for Anesthesia Cr. 1

Research methodologies, including quantitative and qualitative statistical techniques. Emphasis on designing, implementing, and evaluating health care research. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7890 Terminal Project Cr. 1

Finalization of research; preparation for poster submission, publication and presentation of research. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

AN 7900 Advanced Pediatric Topics Cr. 2

Detailed advanced lectures in specific pediatric topics. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7910 Special Topics in Pediatric Anesthesia Cr. 2

Common pediatric problems; in-depth knowledge on neonatal anesthesia. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7920 Case Presentations Cr. 2

Anatomy and physiology of various diseases including principles of anesthetic management. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

ANA - ANATOMY AND CELL BIOLOGY

ANA 6050 Biology of the Eye Cr. 3

Introduction to biology of eye structure/function, and to causes and clinical treatments of eye-related disorders and diseases. Offered for undergraduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$25

Equivalent: BIO 6055, PYC 6050

ANA 7010 Human Gross Anatomy Cr. 8

Lectures and dissection of limbs, back, thorax, abdomen, head and neck, pelvis and perineum. Written and practical examinations. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

ANA 7030 Human Microscopic Anatomy Cr. 4

The microscopic structure of tissues and organs. Lectures and laboratory study. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology or Pathology; enrollment is limited to Graduate level students.

ANA 7055 Biology of the Eye Cr. 3

Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

Equivalent: BIO 7055

ANA 7065 Mechanisms of Ocular Disease I Cr. 2

Lectures and readings on mechanisms and current treatments for diseases of the anterior segment of the eye. Offered Winter.

Prerequisite: ANA 7055 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ANA 7075 Mechanisms of Ocular Disease II Cr. 2

Lectures and readings on mechanisms and current treatments for diseases of the posterior segment of the eye. Offered Fall.

Prerequisite: ANA 7055 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ANA 7080 Human Embryology Cr. 3

Study of experimental and human embryology; developmental processes, with particular reference to human embryology. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

ANA 7130 Neuroanatomy Cr. 4

Lecture and laboratory study of the nervous system. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

ANA 7260 Special Dissection Cr. 2-10

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

Repeatable for 20 Credits

ANA 7270 Special Projects in Anatomy Cr. 2-10

Research rotations leading to selection of permanent advisor. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

ANA 7890 Seminar Cr. 1

Biweekly departmental seminar. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ANA 7996 Research Cr. 1-15

Research under direction of permanent advisor. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

Repeatable for 30 Credits

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

Original research leading to M.S. degree under Plan A. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Anatomy & Cell Biology; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ANA 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ANA 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ANA 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ANA 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

ANT - ANTHROPOLOGY

ANT 2100 Introduction to Anthropology Cr. 3-4

Study of humanity, past and present: cultural diversity and change, human evolution, biological variability, archaeology, ethnography, language, and contemporary uses of anthropology. Offered Every Term.

ANT 2110 Introduction to Physical Anthropology Cr. 3

Role of hereditary and environmental factors, human genetics, meaning of "race" and racial classifications, fossil records, non-human primate behavior and evolution. Offered Every Term.

ANT 2400 Food and Culture Cr. 3

Focus on food as a lens for understanding social, cultural, political, and economic issues around the world. Topics include globalization, nationalism, food restrictions, power relationships, memory, etiquettes, food movements, food security. Offered Irregularly.

ANT 2500 Archaeology of the Great Lakes Cr. 4

Introduction to Native cultures and archaeology of Michigan and the Great Lakes region, from the first peopling of the region through early historic times; changing patterns of adaptation to the ecology of the Great Lakes region; focus on ancient technologies and material culture, social organization, settlement patterns, economic strategies, and political formations. Offered Irregularly.

Course Material Fees: \$25

ANT 2666 Fantastic Archaeology: Frauds, Myths, and Mysteries of the Past Cr. 3

What does archaeology have to do with aliens, conspiracies, the apocalypse, and corrupt politicians? This introductory archaeology course examines the fantastic frauds and meaningful myths surrounding accounts of the human past. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 3020 Introduction to Archaeology Cr. 3

Introduction to the basic principles and science of archaeology. Case studies from all time periods and regions worldwide. Examination of the intersection of archaeology with other disciplines (history, geology, criminal justice, chemistry). Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 3061 Oral History in Middle Eastern Tradition Cr. 3

Methodologies, techniques and applications of oral history used as tools to investigate modern social history of Middle Eastern societies. Offered Winter.

Equivalent: NE 3061

ANT 3100 Cultures of the World Cr. 3-4

Human societies exhibit tremendous variation. How and why do we differ? What do these differences mean in today's world. Explore, contrast, compare, understand cultures like those of the Amazon rain forest, China, Japan, Alaska, India, Central America, and urban America. View their lifestyles, politics, kinship, economics, religions through readings, discussion, film. Required for majors. Only students in Honors Program may register for four credits. Offered Fall.

ANT 3150 Anthropology of Business Cr. 3-4

Differences between American culture/business practice and the culture/business practice of other countries: assumptions, world view and family structure, organization and language. Offered Every Term.

ANT 3200 Lost Cities and Ancient Civilizations Cr. 3

Early civilizations that developed in different parts of the world in comparative perspective. Hypotheses to explain rise and fall of civilizations, in context of ancient cultures. Basics of archaeology: how facts are formed; meaning of "civilization." How understanding of the past shapes understanding of the present. Geared toward the non-major. Offered Every Term.

ANT 3220 The Inca and their Ancestors Cr. 3

Introduction to precolumbian civilizations of South America.

Archaeological and ethnohistorical data on ancient cultures; foundations of Inca civilization; major cultures from different regions and periods. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 3200 with a minimum grade of D-])

Equivalent: ANT 6510

ANT 3310 Language and Culture Cr. 3

An introduction to linguistic anthropology. Using comparative approaches to language and culture across time and space, explore variation and change, cognitive dimensions of language, language evolution, linguistic myths, and the use of language in social practice. Offered Fall.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: LIN 3310

ANT 3400 Medicine, Health and Society Cr. 3

Introduction to concepts in medical anthropology; exploration of healing practices and the institutions shaping those practices. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 3410 Global Health Cr. 3

Introduces students to problems of disease and disorder worldwide and looks at various efforts to define and address these problems through a social science perspective. Offered Every Term.

Equivalent: GLS 3410, PH 3410

ANT 3520 Understanding Africa: Past, Present and Future Cr. 3

In-depth knowledge of Africa through the study of its physiography, prehistory and history, social institutions, and social changes within a global context. Offered Irregularly.

ANT 3530 Native Americans Cr. 3

Survey of Native American cultures north of Mexico in historical and comparative perspective; contemporary Native American issues in an anthropological perspective. Offered Irregularly.

ANT 3540 Cultures and Societies of Latin America Cr. 3

Latin American social structures and cultural variation, history, and relationship to the United States. Themes include class, race, ethnicity, gender, religion, globalization, and immigration to the United States. Offered Irregularly.

ANT 3550 Arab Society in Transition Cr. 3

Distinctive social and cultural institutions and processes of change in the Arab Middle East. Regional variations: background and discussion of current political and economic systems and their relationship to international systems. Offered Irregularly.

Equivalent: NE 3550

ANT 3560 World's Religion Cr. 3

Explores the nature, dynamism, similarities and differences of religions in an anthropological and cross-cultural perspective. Offered Irregularly.

Prerequisite: ANT 2100 with a minimum grade of D-

ANT 3600 Topics in Anthropology Cr. 3

Selected topics or emerging fields in any of the four anthropology subfields (cultural; physical; archaeology; linguistics). Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

ANT 3700 Globalization: Theories, Practices, Implications Cr. 3

Students develop analytical tools for appraising processes of globalization; acquire a familiarity with the current topical concerns of global studies; and examine economic, political, and cultural approaches to globalization. Offered Fall, Winter.

Equivalent: GLS 3700

ANT 3990 Directed Study Cr. 2-6

Offered Every Term.

Prerequisites: ([ANT 1000 with a minimum grade of B])

Repeatable for 6 Credits

ANT 4999 Honors Research and Thesis Cr. 3-6

Research and thesis to be completed under the direction of a faculty member whose expertise includes the student's area of interest. Advisor and a second reader will read the completed thesis. Offered Every Term.

ANT 5060 Urban Anthropology Cr. 3

Social-cultural effects of urbanization from a cross-cultural perspective with emphasis on the developing area of the world. The process of urbanization; the anthropological approach in the area of urban studies. Offered Yearly.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

ANT 5140 Biology and Culture Cr. 3

Interrelationships between the cultural and biological aspects of humans; human genetic variability, human physiological plasticity and culture as associated mechanisms by which humans adapt to environmental stress. Offered Fall.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 2110 with a minimum grade of D-])

ANT 5165 Shop 'Til You Drop: Consumer Society and Culture Cr. 3

Why do we want things that we don't need? Are we bound to consumerism in the global age? This course offers an overview of consumer society and examines consumption practices cross-culturally from an anthropological perspective. Offered Biannually.

ANT 5170 Political Anthropology Cr. 3

Ethnographic and comparative study of power, politics, and political organizations in non-state and state societies and in the colonial encounter; evolutionary, functionalist, practice-oriented, Marxist, feminist, and Foucauldian approaches to the study of power. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 5200 with a minimum grade of D-])

ANT 5180 Forensic Anthropology Cr. 3

Introductory survey of the natural, medical, and behavioral sciences with regard to forensic applications. Topics may include: toxicology, forensic pathology, fingerprints, ballistics, analysis of the human skeleton, body fluid identification. Offered Irregularly.

Prerequisites: ([CRJ 1010 with a minimum grade of D-] OR [ANT 2110 with a minimum grade of D-])

ANT 5210 Anthropological Methods Cr. 4

Intensive introduction to research methods, techniques and issues in anthropology. Students engage in a research experience supervised by the instructor, write a field journal, and complete a final exam. Exercises focus on data collection, data management, and data analysis. Techniques include participant observation, fieldnotes, and interviewing. Students learn how to use software packages employed by anthropological researchers in the computer lab. Offered Fall, Winter.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

ANT 5230 Mixed Methods Research Methodology Cr. 4

Introduction to statistics for students already trained in anthropological or qualitative methods; statistical concepts and techniques. Offered Biannually.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 5996 with a minimum grade of D-])

ANT 5240 Cross Cultural Study of Gender Cr. 3

Evolutionary and cultural bases of gender roles using a world sample; division of labor, marriage and sexual behavior, power and ideology. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

ANT 5260 The African Religious Experience: A Triple Heritage Cr. 3

A triple heritage has contributed to the shaping of lives of African descent: the indigenous, Islamic and Christian religions. Analysis of these legacies, their specificity, interplay and significance in Africa, the Caribbean, South and North America. Offered Irregularly.

ANT 5270 Concepts and Techniques in Archaeology Cr. 3

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. Offered Winter.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 3200 with a minimum grade of D-])

ANT 5280 Field Work in Archaeology of the Americas Cr. 4

Introduction to reconnaissance and excavation of sites; preparation and cataloging of specimens; analysis of data. Offered Irregularly.

Course Material Fees: \$50

ANT 5320 Language and Societies Cr. 3

For graduate students and advanced undergraduates with a background in linguistic anthropology. Students read classic and contemporary works of linguistic anthropology to expand knowledge of human language and sociality; conduct a major original research project. Offered Winter.

Prerequisites: ([ANT 3310 with a minimum grade of D-] OR [LIN 3310 with a minimum grade of D-])

Equivalent: LIN 5320

ANT 5370 Magic, Religion and Science Cr. 3

The nature and variety of religious belief and practice; theoretical interpretations. Offered Biannually.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 5200 with a minimum grade of D-])

ANT 5380 History of Anthropology Cr. 3

Required for majors. History of ideas and explanatory theories in anthropology; continuities and disjunctures in British, French, American, German, Belgian, Russian, and Third World anthropologies. Offered Fall.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 7005 with a minimum grade of D-])

ANT 5400 Anthropology of Health and Illness Cr. 3

Concepts and theory in medical anthropology from cultural and biological perspectives. Topics include: cross-cultural aspects of sex and gender in health and illness, life course, sexuality, birth and death, biocultural approaches to healing and treatment, international health and epidemiology. Offered Biannually.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

ANT 5410 Anthropology of Age Cr. 3

Cultural construction of the life course; age categories such as childhood and old age examined from cross-cultural, historical, political and economic perspectives. Special attention to women's aging; role of biology and ethnicity in aging and death and dying. Offered Biannually.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 2110 with a minimum grade of D-])

ANT 5420 Anthropology Practicum Cr. 3

Field placement in a service agency or other organization. Students provide volunteer assistance to an agency while conducting participant observation research exercises. Utilization of field experience to learn about a variety of research issues and methodologies. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: ANT 7420

ANT 5500 Historical Archaeology Cr. 3

Methods and theoretical approaches of historical archaeology, the archaeology of the modern world (post-1500 AD). Case studies drawn from around the world which converge on major topics and debates within the sub-field. Offered Irregularly.

Prerequisites: ([ANT 3200 with a minimum grade of D-])

ANT 5510 Pre-Columbian and Mesoamerican Civilization Cr. 3

Survey of the history and characteristics of cultures in Mesoamerica prior to and after colonization, from the Olmec and Maya to the Aztec and their descendants. Offered Biannually.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [LAS 2010 with a minimum grade of D-])

Equivalent: LAS 3510

ANT 5515 Archaeology of the Atlantic World Cr. 3

Focus is on Caribbean, American, and African colonies over the past 500 years. Topics include: slavery, colonization, migration, diaspora, social inequality, material culture, and maritime. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

ANT 5565 Urban Archaeology Cr. 3

Introduction to urban archaeology. Case studies from modern and historic-period North and South America, Europe, and Australia. Special emphasis on Detroit's archaeology and how it is used to understand the city's changing urban fabric over time. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

ANT 5600 Museum Studies Cr. 3

Introduction to basics of museums, museum work, and museum theory. Topics include: collections management, data bases, interpretive exhibit methods, current issues in museum studies, legal concerns, role of museums as educational institutions. Offered Irregularly.

ANT 5700 Applied Anthropology Cr. 3

The application of anthropological concepts and methods to contemporary issues of public concern in the United States and abroad. Offered Fall.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 7005 with a minimum grade of D-])

ANT 5800 Anthropological Perspectives on Business Cr. 3

Implications of applying the term "business" to a field or activity. Anthropological approaches to the question of how business differs from other forms of authority and commerce, particularly outside the modern, Euro-American sphere. Offered Irregularly.

ANT 5900 Culture, Language and Cognition Cr. 3

Systematic investigation of the relationships among, language, cognition and culture, including issues relating to human universals, cross-cultural concept formation, metaphor, classification and the evolution of cognition and language. Offered Biannually (Winter).

Prerequisites: ([ANT 3310 with a minimum grade of D-] OR [ANT 5320 with a minimum grade of D-] OR [LIN 3310 with a minimum grade of D-] OR [LIN 5320 with a minimum grade of D-] OR [LIN 3080 with a minimum grade of D-] OR [PSY 3080 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Equivalent: LIN 5900, PSY 5900

ANT 5993 Writing Intensive Course in Anthropology Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. See section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing-Intensive Course in the Major requirement. Within first three weeks of enrollment in corequisite course, student must notify instructor of enrollment in ANT 5993. Required for all majors. Offered Winter.

Prerequisites: (May be taken concurrently: [ANT 5310] OR [ANT 5996] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 5996 Capstone Seminar in Anthropology Cr. 3

Required for majors. Review and integrate central practices and theories in anthropology through discussion of the four major subfields and applied areas of anthropology. Special attention will be given to new developments in the different fields. Recommended for new graduate students without extensive background in anthropology; also open to those outside anthropology who desire a thorough view of research areas and theoretical perspectives in anthropology. Offered Winter.

ANT 6290 Culture Area Studies Cr. 3

Culture and social changes. Origins and functional relationships, regional variation in population, settlement, culture contact, religion, migration, social institutions. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

Repeatable for 9 Credits

ANT 6420 Economic Anthropology Cr. 3

Use of economic analysis in anthropology. Difference between Western and non-Western economies and economic models; methods of analysis of non-Western economies and non-rationalized sectors of Western economies. Offered Biannually.

ANT 6510 The Inca and their Ancestors Cr. 3

Study of pre-Columbian cultures of South America. Archaeological and ethnohistorical data beginning with the Inca; foundations of Inca civilization; major cultures from different regions and periods in South American prehistory. Offered Biannually.

Prerequisites: ([ANT 2100 with a minimum grade of D-] OR [ANT 3200 with a minimum grade of D-])

ANT 6550 Practicum in Archaeology Cr. 2-4

Emphasis on application of theory, practice, and research. Topics include: cultural resource management, ceramic analysis, settlement pattern studies, materialities, historical archaeology, archaeological data management. Offered Yearly.

Repeatable for 8 Credits

ANT 6555 Cultural Resource Management and Public Archaeology Cr. 3

Practicum focuses on historical development of cultural resource management (CRM) in the U.S.; contemporary regulatory framework of CRM; practical experience in project planning, proposal writing, archival research, project management and the reporting process. Offered Biannually.

Prerequisites: ([ANT 5270 with a minimum grade of C] OR [ANT 5280 with a minimum grade of C])

ANT 6570 Archaeological Laboratory Analysis Cr. 3

Introduction to basic laboratory methods for the analysis of archaeological artifacts from both prehistoric and historic period using materials housed in the collections of the Museum of Anthropology. Offered Biannually.

Prerequisites: ([ANT 5270 with a minimum grade of C] OR [ANT 5280 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ANT 6650 Studies in Physical Anthropology Cr. 2-4

Selected topics in physical anthropology. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([ANT 2110 with a minimum grade of D-])

Repeatable for 12 Credits

ANT 6680 Studies in Cultural Anthropology Cr. 2-4

Selected topics in cultural anthropology. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([ANT 2100 with a minimum grade of D-])

Repeatable for 12 Credits

ANT 6990 Grant Proposal Writing for the Social Sciences Cr. 3

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7005 Thinking and Writing Anthropology Cr. 3

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. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7010 Anthropological Theory I Cr. 3

Examination of some major debates in anthropology in historical and contemporary perspective; continuities and breakthroughs. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7020 Anthropological Theory II Cr. 3

Continuation of ANT 7010. Offered Biannually.

Prerequisites: ([ANT 7010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7030 Debates in Anthropology Cr. 3

Advanced seminar on enduring questions and key debates in anthropological thought over its history, including different subfields and allied social sciences. Offered Winter.

Prerequisites: ([ANT 7020 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Anthropology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ANT 7200 Qualitative Research I Cr. 3

Qualitative methods techniques and research design. Students conduct independent field research and learn data collection methods. Offered Biannually.

Prerequisites: ([ANT 7010 with a minimum grade of C] OR [ANT 7020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7210 Qualitative Research II Cr. 3

Students continue their field research and learn to analyze and draw theoretical conclusions from their data. Training in computer and other tools for data analysis and theory building. Offered Biannually.

Prerequisites: ([ANT 7200 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7260 Urban Poverty and Racial Segregation Cr. 3

Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of "underclass" debate. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AFS 6600, PS 7260, SOC 7350, UP 7260

ANT 7420 Anthropology Practicum Cr. 3

Field placement in a service agency or other organization. Students provide volunteer assistance to an agency while conducting participant observation research exercises. Utilization of field experience to learn about a variety of research issues and methodologies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANT 5420

ANT 7430 End-of-Life Issues Cr. 3-4

Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: NUR 7515, SOC 7020

ANT 7605 Seminar in Problems and Concepts in Medical Anthropology Cr. 1-9

Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7620 Seminar in Problems and Concepts in Archaeology Cr. 3

Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 15 Credits

ANT 7625 Material Culture and the Social Meaning of Things Cr. 3

Our relationship with objects, and various ways of looking at material culture as part of our social world. Understanding and appreciation of the materiality of our lives and the lives of peoples of different cultures. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7630 Seminar in Problems and Concepts in Cultural Anthropology Cr. 2-3

Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7635 Globalization and Culture Cr. 3

Focuses on the discourse, debates, and practices of globalization from an anthropological perspective. Fast-paced seminar course for graduate students. Topics include: globalization, localization, and anti-globalization; citizenship and belonging; modernity; transnationalism; migration and diaspora; global food systems; consumption and production; popular culture; religion; development; methodological issues in studying global phenomena. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7665 Seminar in Linguistic Anthropology Cr. 3

Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([ANT 5320 with a minimum grade of C] OR [LIN 5320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7665

ANT 7680 Medical Anthropology I Cr. 3

Core concepts and theoretical approaches, including: aging, life course, childhood, old age, disability, chronic illness, infectious disease, international health, organization of health care institutions, health policy, political economy of health, women's health, reproduction, technology, the body, bioethics, culture and cognition, death and dying, race and ethnicity, violence, sex and sexuality. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ANT 7690 Medical Anthropology II Cr. 3

Continuation of ANT 7680. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7700 Seminar in Business and Industrial Anthropology Cr. 3-9

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7777 Teaching Anthropology Cr. 1

Teaching anthropology at the college level, including pedagogical philosophies and practical strategies. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7780 Conceptualizing the Dissertation Cr. 3

Basic concepts, practices, and skills needed to develop and present a grant proposal for funding. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7900 Synthesis Cr. 3

Integrative, holistic, and comparative examination of anthropology as the synthesis of diverse analytic perspectives and methodologies. Offered Winter.

Prerequisites: ([ANT 7005 with a minimum grade of C]) AND ([ANT 7010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ANT 7987 Directed Study in Business/Organizational Anthropology Cr. 1-9

Research problem which involves fieldwork or intensive and systematic reading of original technical literature. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7990 Directed Study in Physical Anthropology Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ANT 7991 Directed Study in Linguistics Cr. 1-9

A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7991

Repeatable for 9 Credits

ANT 7992 Directed Study in Archaeology Cr. 1-9

A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7993 Directed Study in Cultural Anthropology Cr. 1-9

A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7994 Directed Study in Medical Anthropology Cr. 1-9

Research problem requiring intensive study of original documents, specialized literature, and/or field research with write-up. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7995 Directed Study Cr. 1-9

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7998 Field Problem Cr. 1-9

A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ANT 7999 Master's Essay Direction Cr. 3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ANT 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ANT 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ANT 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ANT 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

APA - ART: PAINTING

APA 2000 Oil Painting I Cr. 3

Traditional materials and methods of oil painting as a means of visual expression. Previous painting experience is not required. Painting from direct observation and imagination. Offered Every Term.

Prerequisite: ADR 1050 with a minimum grade of C- and ADR 1060 with a minimum grade of C- and ACO 1200 with a minimum grade of C-

Course Material Fees: \$30

APA 2110 Watercolor Painting I Cr. 3

Methods and materials of transparent watercolor painting. Previous experience with watercolor painting is not required. Compositions based on observation and imagination. Offered Fall, Winter.

Prerequisite: APA 2000 with a minimum grade of C-

Course Material Fees: \$30

APA 2130 Introduction to Alternative Painting Media Cr. 3

Survey of materials and methods of acrylic painting, encaustic painting, pastel painting, as well as collage and mixed media painting. Previous painting experience is not required. Compositions based on observation and imagination. Offered Yearly.

Prerequisite: ADR 1050 with a minimum grade of C- and ADR 1060 with a minimum grade of C- and ACO 1200 with a minimum grade of C-

Course Material Fees: \$80

APA 3000 Oil Painting II Cr. 3

Continued emphasis on structure of painting. Individual development of pictorial, emotional and conceptual aspects of image-making. Offered Every Term.

Prerequisite: APA 2000 with a minimum grade of C-

Course Material Fees: \$30

APA 3110 Watercolor Painting II Cr. 3

Continued experience with watermedia compositions based on observation and/or imagination. Offered Fall, Winter.

Prerequisite: APA 2110 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$30

APA 3130 Figure Painting: Water Media Cr. 3

Spontaneous and sustained paintings from direct observation of the human figure. Inquiry into the effects of scale, space and emotional responses are encouraged. Offered Yearly.

Prerequisite: APA 2110 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

Equivalent: APA 5130, APA 7130

APA 3140 Figure Painting: Oil and Other Media Cr. 3

Sustained and gestural studies of human figure. Individual responses to scale, space, emotional content. Offered Every Term.

Prerequisite: APA 3000 with a minimum grade of D-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

APA 4000 Oil Painting III Cr. 3

Individual development of personal painting ideas through assigned projects and/or student initiative in consultation with instructor. Continued emphasis on formal and expressive aspects of painting. Offered Every Term.

Prerequisite: APA 3000 with a minimum grade of C-

Course Material Fees: \$30

APA 5000 Oil Painting IV Cr. 3

Individual development in painting. Offered Every Term.

Prerequisites: ([APA 4000])

Course Material Fees: \$30

Repeatable for 6 Credits

APA 5060 Advanced Concepts in Drawing and Painting Cr. 3-6

Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.

Prerequisites: ([ADR 3070] OR [APA 4000])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Equivalent: APA 5700, APA 7060

Repeatable for 6 Credits

APA 5080 Landscape Painting Cr. 3

Painting or drawing, as appropriate, outdoors at various urban, suburban and rural sites in metropolitan Detroit area. Students are expected to drive or carpool to locations within an hour of Detroit. Interpretation of landscape subjects through observation and imagination. Offered for undergraduate credit only. Offered Spring/Summer.

Prerequisite: APA 2000 with a minimum grade of C-

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$30

Equivalent: APA 7080

Repeatable for 6 Credits

APA 5100 Contexts of Studio Practice Cr. 3

Critical inquiry into art issues, past and present, and contemporary studio practices related to painting. Seminar based on visits to museums, galleries, private collections, artists' studios, and optional trips to major art centers such as New York and Chicago. Offered Yearly.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

Equivalent: ADR 5100

Repeatable for 6 Credits

APA 5110 Watercolor Painting III Cr. 3

Individual work in transparent and/or opaque water-based media. Offered Fall, Winter.

Prerequisites: ([APA 3110 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Repeatable for 6 Credits

APA 5130 Figure Painting Advanced: Water Media Cr. 3

Individual development in water media based on observation of human figure. Offered Yearly.

Prerequisites: ([APA 3130 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

APA 5140 Figure Painting Advanced: Oil and Other Media Cr. 3

Individual development based on the human figure using any appropriate medium. Offered Yearly.

Prerequisites: ([APA 3140 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

APA 5160 Advanced Alternative Painting Media Cr. 3

Individual work in the materials and methods of acrylic painting, encaustic painting, pastel painting, as well as collage and mixed media painting. Offered Fall, Winter.

Prerequisites: ([APA 2130 with a minimum grade of D-] OR [APA 2000 with a minimum grade of D-] OR [APA 2110 with a minimum grade of D-])

Course Material Fees: \$80

Repeatable for 6 Credits

APA 5700 Advanced Concepts in Drawing and Painting Cr. 3-6

Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.

Prerequisites: ([APA 4000 with a minimum grade of C-] OR [APA 3070 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Bachelor of Science degrees.

Course Material Fees: \$30

Equivalent: APA 5060, APA 7060

Repeatable for 6 Credits

APA 5810 Directed Projects: Painting Cr. 3-6

Self-directed work in consultation with graduate faculty on an arranged basis. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

Repeatable for 998.99 Credits

APA 7000 Graduate Oil Painting Cr. 3

Individual work in oil painting, or other material as appropriate. Offered Every Term.

Prerequisite: APA 5000 with a minimum grade of C

Restriction(s): Enrollment limited to students in the MA in Fine Arts or Master of Fine Arts programs; enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 9 Credits

APA 7060 Graduate Problems in Drawing and Painting Cr. 3-9

Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Equivalent: APA 5060, APA 7700

Repeatable for 15 Credits

APA 7080 Landscape Painting Cr. 3

Painting or drawing, as appropriate, outdoors at various urban, suburban and rural sites in metropolitan Detroit area. Interpretation of landscape subjects through observation and imagination. Students are expected to drive or carpool to locations within an hour of Detroit. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Equivalent: APA 5080

Repeatable for 15 Credits

APA 7110 Graduate Watercolor Painting Cr. 3

Individual work in transparent and/or opaque water-based media. Offered Fall, Winter.

Prerequisite: APA 5110 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$30

Repeatable for 9 Credits

APA 7130 Graduate Problems in Figure Painting: Water Media Cr. 3

Individual development of images based on the human figure. Offered Yearly.

Prerequisite: APA 5130 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

APA 7140 Graduate Problems in Figure Painting: Oil Media Cr. 3

Individual development of images based on the human figure. Offered Yearly.

Prerequisite: APA 5140 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 9 Credits

APA 7700 Graduate Problems in Drawing and Painting Cr. 3-9

Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Equivalent: APA 5060, APA 7060

Repeatable for 15 Credits

APA 8810 MFA Studio: Painting Cr. 3-9

Extended self-directed work in painting (eighteen to twenty-seven hours per week). Consultation with appropriate graduate faculty on an arranged basis. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 36 Credits

APH - ART: PHOTOGRAPHY

APH 2400 Introduction to Photography Cr. 3

Essential technical, conceptual, and artistic problems associated with photography. Exploration of how photography functions as visual language and how a camera works in order to use it as a tool for personal expression. Students must have own digital camera that has access to Aperture/ Shutter Speed/ Manual controls and shoots at least 10 megapixels image. Offered Every Term.

APH 2410 Black and White Darkroom Photography I Cr. 3

Introduces darkroom practices, including: black and white analog film processing, printing and presentation. Students must have own film 35 mm or 120 mm medium format film camera. Offered Every Term.

Prerequisite: APH 2400 with a minimum grade of C-

Course Material Fees: \$180

APH 2420 Digital Photography I Cr. 3

Introduces students to the underlying principles, languages and tools of electronic media in relationship to photographic imaging. Students will learn key concepts in digital imaging such as modes of data capture, file management, processing workflow, color management, resolution, non-destructive image processing, film scanning and inkjet printing. A digital camera that shoots RAW images and has access to manual controls is required for this course. Offered Every Term.

Prerequisite: APH 2400 with a minimum grade of C-

Course Material Fees: \$180

APH 3410 Black and White Darkroom Photography II Cr. 3

Furtheres an intermediate development of photographic darkroom practices from exposure and development of black and white film, to printing and presentation. Students must have their own film 35 mm or 120 mm medium format film camera. Offered Every Term.

Prerequisite: APH 2410 with a minimum grade of C-

Course Material Fees: \$180

APH 3420 Digital Photography II Cr. 3

Designed to give upper level photo concentrators a thorough understanding of the intermediate-level workflow for film-capture and scanning, and digital camera RAW file capture. Explores technical issues, including advanced tonal and color correction techniques, image sharpening, digital camera exposure and Raw file processing, inkjet printing and automated batch file processing; as well as the development of a conceptually rigorous portfolio. Students entering this course should be proficient in the use of the Macintosh platform and basic Photoshop operations. A digital camera that shoots RAW images and has access to manual controls is required for this course. Offered Every Term.

Prerequisite: APH 2420 with a minimum grade of C-

Course Material Fees: \$180

APH 4410 Advanced Photography Cr. 3

This course is for upper level photo concentrators in order to bring together advanced skills and ideas about image making. Students are expected to work independently on their individual projects with the expectation of a culminating body of work; they will refine their skills as photographers and learn how to verbally articulate issues in their own work as well as the work of others. Offered Yearly.

Prerequisite: APH 3410 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$180

Repeatable for 6 Credits

APH 4420 View Camera Cr. 3

Basic view camera techniques. Sheet film processing and printing. Studio lighting techniques. Offered Biannually.

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$180

APH 5440 Experimental Photography Cr. 3-6

Work in non-traditional processes including image and emulsion transfer, hand-applied emulsions, laser copy and xerographic transfer. Offered Biannually.

Prerequisite: APH 3410 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$180

Repeatable for 9 Credits

APH 5450 Selected Topics in Photography Cr. 3

Topics to be announced in Schedule of Classes . Offered Yearly.

Prerequisites: ([APH 4410])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$180

Repeatable for 6 Credits

APH 5850 Directed Projects: Photography Cr. 3-9

Individual problems. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$180

Repeatable for 998.99 Credits

APH 5860 Social Documentary: Community, Compassion, and Activism Cr. 3

Photographic documentation applied to social cause, community representation, and visual/multicultural critical theory. Offered Irregularly.

Prerequisite: APH 2400 with a minimum grade of C-

Course Material Fees: \$180

APH 7400 Graduate Photography Cr. 3-9

Individual problems in advanced photography. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$180

Repeatable for 24 Credits

APH 8850 MFA Studio: Photography Cr. 3-9

Extended problems in photography; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$180

Repeatable for 36 Credits

APR - ART: PRINTMAKING

APR 2300 Introduction to Printmaking Cr. 3

Introduction to a variety of printmaking media including etching, monoprint, serigraphy and woodcut. Offered Yearly.

Prerequisite: ADR 1050 with a minimum grade of C- and ACO 1200 with a minimum grade of C-

Course Material Fees: \$90

APR 3470 Beginning Photo Processes for Printmaking Cr. 3

Processes for lithography, intaglio, and serigraphy using hand-drawn, computer-generated, or photo-generated positives. Offered Winter.

Prerequisite: ADR 1050 with a minimum grade of C- or AGD 2240 with a minimum grade of C- or ADA 2220 with a minimum grade of C- or APH 2410 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$115

APR 3480 Beginning Intaglio Printmaking Cr. 3

Basic metal plate techniques: etching, aquatint, engraving, drypoint, soft ground, lift ground. Offered Fall, Winter.

Prerequisite: ADR 1060 with a minimum grade of C- and ADE 1200 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$110

APR 3490 Beginning Lithography Cr. 3

Fundamentals of stone and plate lithography. Black and white prints made. Offered Spring/Summer.

Prerequisite: ADR 1060 with a minimum grade of C- and ACO 1230 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$110

APR 3500 Beginning Serigraphy Cr. 3

Introduction to basic techniques of screen printing. Offered Yearly.

Prerequisite: ADR 1060 with a minimum grade of C- and ACO 1230 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$110

Equivalent: APR 5500, APR 7500

APR 3510 Beginning Relief and Experimental Printmaking Cr. 3

Traditional relief methods: woodcut, wood engraving, linocut; also monoprint and monotype, constructed prints, other experimental approaches. Offered Every Term.

Prerequisite: ADR 1060 with a minimum grade of C- and ACO 1230 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

APR 5470 Advanced Photo Processes for Printmaking Cr. 3

Processes for lithography, intaglio, and serigraphy. Offered Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$115

Repeatable for 9 Credits

APR 5480 Advanced Intaglio Printmaking Cr. 3

Advanced problems in intaglio. Multiplate and rollup color printing. Photo intaglio techniques, experimental media. Offered Fall, Winter.

Prerequisites: ([APR 3480])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$110

Repeatable for 6 Credits

APR 5490 Advanced Lithography Cr. 3

Advanced problems in lithography. Black and white, multicolor, transfer methods. Offered Fall, Winter.

Prerequisites: ([APR 3490])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$110

Repeatable for 6 Credits

APR 5500 Advanced Serigraphy Cr. 3

Advanced problems in screen-printing. Photo transfer, multi-media approaches. Offered Yearly.

Prerequisites: ([APR 3500])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$110

Repeatable for 15 Credits

APR 5510 Advanced Relief and Experimental Printmaking Cr. 3

Traditional relief methods: woodcut, wood engraving, linocut; also monoprint and monotype, constructed prints, other experimental approaches. Offered Spring/Summer.

Prerequisites: ([APR 3500 and APR 5490])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 15 Credits

APR 7470 Graduate Photo Processes for Printmaking Cr. 3

Exploration of non-traditional formats and print surfaces. Editioning optional. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$115

Repeatable for 9 Credits

APR 7480 Graduate Intaglio Cr. 3

Advanced problems in intaglio. Multiplate and rollup color printing. Photo intaglio techniques, experimental media. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$110

Repeatable for 9 Credits

APR 7490 Graduate Lithography Cr. 3

Advanced work in lithography. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$110

Equivalent: APR 3490, APR 5490

Repeatable for 6 Credits

APR 7500 Graduate Serigraphy Cr. 3

Advanced work in serigraphy. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$110

APR 7510 Graduate Relief and Experimental Printmaking Cr. 3

Traditional relief methods: woodcut, wood engraving, linocut; also monoprint and monotype, constructed prints, other experimental approaches. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$90

Repeatable for 15 Credits

APR 8840 MFA Studio: Printmaking Cr. 3-9

Extended problems in printmaking; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$100

Repeatable for 36 Credits

APX - ACADEMIC PATHWAY EXCELLENCE

APX 0500 Foundations in Writing Cr. 3

Preliminary course designed to provide foundational work in writing, in preparation for ENG 1010. Basic writing; emphasis on grammar, vocabulary and paragraph development, and organization. No degree credit. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

APX 0510 Practical Mathematics Cr. 3

Review of concepts involving arithmetic with fractions, decimals, and percent; units conversions; ratio and proportion; exponents and radicals; algebra and linear equations; with word problems emphasized. Some elementary geometry, interpretations of graphs, and probability included. This course prepares students for MAT 0993. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

APX 0600 Learning Community Seminar Cr. 0

Students are involved in group learning, community service initiatives, and social development projects. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

APX 1000 Learning Strategies for College Success Cr. 2

First-year seminar course designed to improve critical thinking, notetaking, and exam preparation strategies for application to college courses. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

APX 1010 Seminar in Reading College Texts Cr. 2

Development and application of critical and analytical thinking skills to college-level texts and the process of developing new ideas. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

ARB - ARABIC

ARB 1010 Elementary Arabic I Cr. 4

Vocabulary, forms, syntax, graded readings. Offered Fall.

Course Material Fees: \$5

ARB 1020 Elementary Arabic II Cr. 4

Continuation of ARB 1010. Offered Winter.

Prerequisites: ([ARB 1010 with a minimum grade of D-])

Course Material Fees: \$5

ARB 2010 Intermediate Arabic I Cr. 4

Continuation of grammar, readings in classical and modern prose. Offered Fall.

Prerequisites: ([ARB 1020 with a minimum grade of D-])

Course Material Fees: \$5

ARB 2020 Intermediate Arabic II Cr. 4

Continuation of ARB 2010. Offered Winter.

Course Material Fees: \$5

ARB 3010 Business Arabic Cr. 3

Introduces learners of Arabic to language functions associated with business and travel. Communication for immediate use; emphasis on educated spoken Arabic. Situational dialogues built around units to address topics related to business such as job interview, airplane ticket purchase, and the like. Offered Winter.

Prerequisites: ([ARB 2010 with a minimum grade of D- and ARB 2020 with a minimum grade of D-])

ARB 3110 Advanced Arabic I Cr. 3

Third year Arabic language course: advanced Arabic grammar, complexities of sentence construction in various styles (literary, political, and scientific texts; written media; business correspondence). Offered Fall, Winter.

Prerequisites: ([ARB 2020 with a minimum grade of D-])

ARB 3120 Advanced Arabic II Cr. 3

Completion of ARB 3110; variations between classical Arabic and modern standard Arabic. Offered Fall, Winter.

Prerequisites: ([ARB 3110 with a minimum grade of D-])

ARB 3210 Spoken Arabic Cr. 3

Introduction to authentic spoken Arabic. Language of everyday life; phonology and script. Communication for immediate use. Offered Fall.

Prerequisites: ([ARB 1020 with a minimum grade of D-])

Repeatable for 9 Credits

ARB 3300 Conversation and Composition Cr. 3

Functional usage of language and communication in context. Critical essays written about topics discussed in class to improve writing skills. Offered Fall, Winter.

ARB 3990 Directed Study Cr. 3-6

Readings, periodic reports and consultations. Offered Every Term.

Repeatable for 9 Credits

ARB 5010 Medieval Arabic Texts Cr. 3

Reading and translation of Arabic Medieval texts. Literature, language, religion and biography. Offered Yearly.

ARB 5020 Media Arabic Cr. 3

Language pertinent to media communications: written, visual and audio material. Background in origin and development of journalism in the Arab world. Current major newspapers and magazines used as basic reading materials. Offered Winter.

Prerequisites: ([ARB 2020 with a minimum grade of D-])

ARB 5100 Teaching of Arabic as a Foreign/Second Language (TAFL) Cr. 3

Theoretical and conceptual framework of second language learning.

Proper training in pedagogy as related to learning Arabic as a foreign/second language. Offered Yearly.

Equivalent: NE 5100

ARB 5130 Classical Arabic Literature in Translation Cr. 3

From pre-Islamic period (Jahiliya) to the downfall of the Umayyad dynasty in Andalusia (1492). Offered Winter.

ARB 5140 Modern Arabic Literature in Arabic and English Cr. 3

Literature and culture of Arab Nahda period (Renaissance beginning in nineteenth century), down to the present. Fiction, drama, biography, poetry. Course is offered in both Arabic and English. Offered Yearly.

Prerequisites: ([ARB 2020 with a minimum grade of D-])

ARB 5210 Arabic Sociolinguistics Cr. 3

Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. Offered Fall.

Equivalent: LIN 5210, NE 5210

ARB 5230 Structure of Arabic Cr. 3

Survey of historical constitution and theoretical structure of Arabic. Offered Yearly.

Equivalent: LIN 5230, NE 5230

ARB 5240 Quranic Arabic Cr. 3

Structures and functions of the language of the Quran. It introduces linguistic, textual, cultural, and aesthetic aspects of this language from the perspective of medieval and modern scholars of Arabic. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

ARB 5700 Medical Arabic Cr. 3

Students develop a medical Arabic lexicon through conversation, dialogues, role playing, mock medical situations, and writing medical reports. Offered Winter.

ARB 5990 Directed Study Cr. 1-3

Readings; periodic consultations and reports. Offered Every Term.

Repeatable for 9 Credits

ARB 6120 Arab Women Through Literature Cr. 3

Arabic literature by women, expressing gender vision of society, history, and women's role in Arab world and North Africa. Offered Yearly.

Prerequisites: ([NE 2040] OR [NE 3040])

Equivalent: NE 6120

ARB 6700 History of Arabic Cr. 3

History of the evolution of Arabic. Data from phonetics/phonology and morpho-syntax will form the basis of study. Offered Fall.

Equivalent: LIN 6700

ARM - ARMENIAN

ARM 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3

Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.

Equivalent: GER 3410, POL 3410, RUS 3410, SLA 3410

ASL - ART: SCULPTURE

ASL 2150 Beginning Sculpture Cr. 3

Instruction in traditional techniques and concepts of sculpture including modeling the figure from observation using clay, moldmaking, carving, construction, and casting. Lectures, demonstrations, critiques. Offered Every Term.

Prerequisite: ADR 1060 with a minimum grade of C- and ACO 1230 with a minimum grade of C-

Course Material Fees: \$115

ASL 3150 Intermediate Sculpture Cr. 3

Contemporary concerns in sculpture. Idea, scale, site, light, movement, and serial forms. Offered Every Term.

Prerequisite: ASL 2150 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

ASL 3170 Figurative Sculpture I Cr. 3

Instruction in traditional, representational, figurative sculpture. Historical examples, concepts and techniques. Basic anatomy, observation, modeling, gesture, proportion, plane, volume, mass, texture, portraiture; use of calipers, armatures, and moldmaking. Carving, construction, and casting are optional. Offered Irregularly.

Prerequisite: ASL 2150 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$90

ASL 3190 Sculpture Foundry I Cr. 3

Creation of sculpture using metal. Bonded-sand and investment casting using bronze and aluminum; chasing and patinas; oxy-acetylene, stick, mig, and tig welding; plasma cutting. Offered Yearly.

Prerequisite: ASL 2150 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$115

Repeatable for 998.99 Credits

ASL 5150 Advanced Sculpture Cr. 3

Development of personal and professional body of work. Discussions, lectures, assignments. Offered Every Term.

Prerequisites: ([ASL 2150, ASL 3150, ASL 3170, and ASL 3190])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 9 Credits

ASL 5170 Figurative Sculpture II Cr. 3

Emphasis on advanced and self-directed problems in figurative sculpture. Offered Yearly.

Prerequisites: ([ADR 3090 and ASL 3170])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 6 Credits

ASL 5180 Sculpture: Advanced Technology Cr. 3-6

One major project, which explores the application of non-traditional materials and technologies: research, industrial liaisons, equipment. Offered Irregularly.

Prerequisite: ASL 5170 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$200

Repeatable for 12 Credits

ASL 5190 Sculpture Foundry II Cr. 3

Development of ideas and skills using either casting or fabrication or both. Offered Yearly.

Prerequisites: ([ASL 3190])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$115

Repeatable for 9 Credits

ASL 5810 Special Topics in Sculpture Cr. 3

Topics to be announced in Schedule of Classes. Offered Yearly.

Prerequisites: ([ASL 2150, ASL 3150, ASL 3170, and ASL 3190])

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 9 Credits

ASL 5820 Directed Projects Cr. 3-6

Independent projects done in consultation with instructor. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 998.99 Credits

ASL 7150 Graduate Sculpture Cr. 3

Graduate-level problems. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.

Course Material Fees: \$90

Repeatable for 9 Credits

ASL 8820 MFA Studio: Sculpture Cr. 3-9

Extended problems in sculpture; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$90

Repeatable for 36 Credits

ASN - ASIAN STUDIES

ASN 1700 History of Pre-Modern East Asia Cr. 3

From antiquity to the late seventeenth century; emphasis on political, economic, social, and cultural developments in China, Japan, and Korea. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 1700

ASN 1710 History of Modern East Asia Cr. 3

From beginning of nineteenth century to the present; emphasis on political, social, economic developments in China, Japan and Korea. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 1710

ASN 2800 Culture Studies in Japan (Homestay and Study Abroad Tour) Cr. 3

Survey of Japanese culture taught in English. Introduction of family and group organization, customs, pop culture (fashion/music/films), aspects of daily lives (thought/religion/arts/society), and a brief modern history. Also, survival language practice. Offered Spring/Summer.

Equivalent: JPN 2800

ASN 3770 Politics of East Asia Cr. 4

Survey of five major polities in East Asia: China, Taiwan, Japan, South Korea, and (more briefly) North Korea. Why some of them have undergone democratization and others have not; how political factors have affected their recent economic performance; what explains conflicts and cooperation among them, and what security implications they hold for the United States. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: PS 3770

ASN 3840 China and the World 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. Offered for undergraduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3840

ASN 5825 Readings in the History of Modern China Cr. 4

From the rise of the last dynasty in the early seventeenth century to the present. Offered Irregularly.

Equivalent: HIS 5825

ASN 5855 Readings in History of Pre-Modern Japan Cr. 4

Japanese history from its mythical origins to early nineteenth century; political, economic, social, cultural developments. Offered Biannually.

Equivalent: HIS 5855

ASN 5865 Modern Japan Cr. 4

Japanese history from the early nineteenth century to the present; emphasis on political, economic, and social developments. Offered Yearly.

Equivalent: HIS 5865

ASN 5875 Gender in Modern East Asia Cr. 4

History of gender in China, Japan, and Korea, with topics to include Confucianism, the state's role in gender construction, nationalism, imperialism, marriage, family, labor, sexuality, and feminism. Offered Biannually.

Equivalent: GSW 5875, HIS 5875

ASN 5993 Writing Intensive Course in Asian Studies Cr. 0

Disciplined writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

ASN 6840 Readings in China and the World 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. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHI 6840, HIS 6840

AST - ASTRONOMY

AST 2010 Descriptive Astronomy Cr. 4

Lecture course that introduces the concepts and methods of modern astronomy, the solar system, stars, galaxies, and cosmology; recent discoveries about planets, moons, the sun, pulsars, quasars, and black holes. Meets General Education Laboratory requirement only when taken with Coreq: AST 2011. Offered Every Term.

AST 2011 Descriptive Astronomy Laboratory Cr. 1

Laboratory exercises and observations; includes two late evening viewing sessions. Satisfies General Education Laboratory requirement when taken concurrently with AST 2010. Offered Every Term.

Prerequisite: (AST 2010 (may be taken concurrently) with a minimum grade of C or AST 5010 (may be taken concurrently) with a minimum grade of C) or PHY 5010 (may be taken concurrently) with a minimum grade of C

Course Material Fees: \$25

AST 4100 Astronomical Techniques Cr. 3

Techniques of modern astrophysics. Detectors used in astronomy for optical and infrared photons, radio and microwaves, X- and gamma rays, and neutrinos. Techniques in imaging, photometry, spectroscopy, astrometry, polarimetry, and for analyzing public data available on the web. Offered Fall.

Prerequisites: ([PHY 2180 with a minimum grade of C-]) AND ([PHY 2181 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

AST 4200 Astronomical Laboratory Cr. 2

Introduction to laboratory techniques of modern astrophysics. Optical astronomy, including measurement of the quantum efficiency of a CCD-based astronomical digital camera; measurement of the throughput as a function of wavelength of a set of standard astronomical filters; measurement of the HR diagram of a star cluster using the calibrated camera and filters. Offered Fall.

Prerequisites: ([AST 4100 with a minimum grade of D-])

Course Material Fees: \$25

AST 4300 Planetary Astronomy and Space Science Cr. 3

Formation and evolution of the solar system: planetary surfaces, interiors, atmospheres, and magnetospheres; asteroids, comets, planetary satellites, and ring systems. Emphasis on using basic physics to understand observed properties of the solar system. Offered Winter.

Prerequisites: ([PHY 2180 with a minimum grade of C-]) AND ([PHY 2181 with a minimum grade of C-])

AST 5010 Astrophysics and Stellar Astronomy Cr. 3

Electromagnetic radiation and matter; solar characteristics; stellar distances; magnitudes; spectral classification; celestial mechanics; binary stars; stellar motions, structure and evolution; compact and variable stars; Milky Way Galaxy and interstellar medium; galaxies and clusters of galaxies; quasars; Hubble's Law; cosmology. Offered Biannually (Winter).

Prerequisites: ([PHY 2140 with a minimum grade of C-] OR [PHY 2180 with a minimum grade of C-]) AND ([MAT 2010 with a minimum grade of C-])

Equivalent: PHY 5010

AST 5100 Galaxies and the Universe Cr. 3

Exploration of the world of galaxies, starting with the Milky Way and moving outward to larger scales. Basic properties of galaxies: galaxy classification, structure, evolution, observations of Active Galactic Nuclei (AGN), Quasar, and Seyfert galaxies. Discovery of dark matter and black holes. Cosmology: origins of the universe in a hot big bang; its expansion history including recent evidence that the cosmic expansion is accelerating; the cosmic microwave background, and the ultimate fate of the universe. Capstone course for astronomy majors. Offered Winter.

Prerequisites: ([PHY 3300 with a minimum grade of C-])

AUD - AUDIOLOGY

AUD 5400 Introduction to Audiology Cr. 3

Introduction to physics of sound, anatomy of the hearing mechanism, audiometry, hearing aids, habilitation and rehabilitation of the hearing handicapped. Offered Fall, Winter.

AUD 5420 Introduction to Aural Rehabilitation Cr. 3

Principles and practices of aural rehabilitation including hearing aids. Offered Spring/Summer.

Prerequisites: ([AUD 5400 with a minimum grade of D-])

AUD 6000 Electrophysiological Procedures Cr. 4

Two distinct electrophysiological procedures, auditory evoked potentials and otoacoustic emissions, are presented. Both procedures consist of several sub-tests used to assess the auditory system from the middle ear to the cortex, in normal and disordered ears. Offered for graduate credit only. Offered Winter.

Prerequisite: AUD 5400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

AUD 6030 Instrumentation in Audiology Cr. 3

Operation, hook-up, scientific notation, systems of measurement, calibration and repair of instruments and software used in clinical audiology. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

AUD 6040 Auditory and Vestibular Pathologies Cr. 4

Disorders of the auditory and vestibular systems. Etiology, pathological characteristics, medical and non-medical therapies. Offered for graduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

AUD 6310 Audiology Clinical Practicum Series Cr. 3

Progression of knowledge and skill level, from introductory basic clinical skills through advanced clinical protocols for difficult to manage patients. Offered for graduate credit only. Offered Every Term.

Prerequisite: AUD 6410 with a minimum grade of C and AUD 6411 with a minimum grade of C and AUD 6412 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

Repeatable for 9 Credits

AUD 6400 Anatomy, Physiology, and Psychophysiology of Audition Cr. 4

Structure and function of the human auditory system. Psychophysical theories of hearing. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Audiology or Speech-Language Pathology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy, Master of Arts or Master of Science degrees.

AUD 6410 Basic Audiologic Evaluation Cr. 3

Principles and application of pure-tone and speech audiometry, clinical masking, and impedance/immittance testing. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

AUD 6411 Audiology Clinical Laboratory I Cr. 2

Development of basic competencies related to clinical procedures and methods for evaluation and treatment of clients; maintenance and use of technology in the university audiology clinic. Student will observe and begin to perform evaluations under faculty supervision. Offered for graduate credit only. Offered Fall.

Prerequisite: AUD 6410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$135

AUD 6412 Audiology Clinical Laboratory II Cr. 2

Continuation of basic competency development related to clinical procedures and methods for evaluation and treatment of clients, maintenance and use of technology in an audiology clinical practice. Students perform evaluations under faculty supervision. Offered for graduate credit only. Offered Winter.

Prerequisite: AUD 6040 with a minimum grade of C and AUD 6411 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$135

AUD 6413 Audiology Clinical Laboratory III Cr. 2

Continuation of competency development related to clinical procedures and methods for evaluation and treatment of clients, including advanced testing procedures. Course includes a rotating placement at a local health system. Offered for graduate credit only. Offered Spring/Summer.

Prerequisites: ([AUD 6411 with a minimum grade of B-]) AND ([AUD 6412 with a minimum grade of B-])

Restriction(s): Enrollment is limited to students with a major in Audiology; enrollment limited to students in the Doctor of Audiology or Doctor of Audiology programs; enrollment is limited to Graduate level students.

Course Material Fees: \$135

AUD 6430 Principles of Amplification I Cr. 3

Electroacoustic and clinical aspects of acoustic amplifiers and developmental history of hearing aids. Offered for graduate credit only. Offered Winter.

Prerequisite: AUD 6410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

AUD 6530 Principles of Amplification II Cr. 3

Fundamentals of digital technology, compression, channeling and programming, and applications to various hearing impairment parameters. Offered for graduate credit only. Offered Fall.

Prerequisite: AUD 6430 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

AUD 7300 Clinical Internship Cr. 3

Supervised observation, training and practice in audiological procedures. Placements in local audiology settings as assigned by clinical rotation coordinator. Offered Every Term.

Prerequisite: AUD 5400 with a minimum grade of C and AUD 6410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

AUD 7320 Issues, Ethics and Scope of Practice in Audiology Cr. 2

Code of Ethics and Scope of Practice as published by the professional organizations for audiology. Issues and case studies in ethical practice, malpractice, legal responsibilities, best practice, and counseling. Offered Biannually.

Prerequisite: AUD 6000 with a minimum grade of C and AUD 6430 with a minimum grade of C and AUD 8430 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

AUD 7350 Contemporary Issues in Audiology Cr. 4

Integrated seminar; topics announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 16 Credits

AUD 7410 Psychoacoustics Cr. 3

Basic hearing science including psychophysical methods underpinning clinical testing procedures, signal detection theory, and speech perception. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

AUD 7420 Hearing Loss Prevention Programs Cr. 3

Assessment of damage risk criteria for noise-induced hearing loss. Implementation and management of hearing loss prevention programs in industry, schools, and community settings. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7430 Pediatric Audiology Cr. 3

Introduction to embryology, tests, test procedures, and counseling of parents with hearing-handicapped children. Offered Spring/Summer.
Prerequisite: AUD 6410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7500 Aural Rehabilitation Cr. 3

Treatment procedures, measurement and electrophysiological instrumentation, ethical dilemmas. Offered Spring/Summer.
Prerequisite: AUD 5420 with a minimum grade of C and AUD 6430 with a minimum grade of C and AUD 6530 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7520 Counseling in Audiology Cr. 1

Basic counseling principles and techniques applied to patients and their family members during evaluation and treatment of auditory and balance disorders. Offered Spring/Summer.
Prerequisite: AUD 6410 with a minimum grade of C and AUD 6411 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7540 Genetic Auditory Disorders Cr. 3

Medical genetics and its application to hearing loss and craniofacial disorders; genetic etiology, diagnosis, therapeutic implications. Ethical, legal and social issues: cloning, gene therapy, and prevention. Offered Winter.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Audiology, Communication Sci & Disorders, Comm Sci & Disorders Honors or Speech-Language Pathology; enrollment is limited to Graduate level students.

AUD 7550 Intra-operative Neurophysiologic Monitoring Cr. 2

Presentation of the techniques used to monitor neurological centers during head/neck surgery. Operating room observations required. Offered Spring/Summer.
Prerequisite: AUD 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Audiology, Communication Disorders&Sci or Commun Disorders&Sci Hon; enrollment is limited to Graduate level students.

AUD 7990 Directed Study Cr. 1-3

Literature review of an approved topic in audiology under supervision of the graduate faculty. Course may include an experimental investigation. Comprehensive written report is required. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

AUD 8300 Audiology Fellowship Cr. 8

Advanced supervised clinical practice in an off-campus setting over the final three semesters of professional study. Offered Every Term.
Prerequisite: AUD 7300
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 24 Credits

AUD 8350 Research Seminar Cr. 3

Topics announced in Schedule of Classes. Emphasis on clinical research methods. Offered Yearly.
Prerequisite: SLP 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 15 Credits

AUD 8430 Equilibrium/Vestibular System Evaluation Cr. 4

Anatomy, physiology and functional assessment of the vestibular system including instrumentation, procedures, and interpretation of ENG, dynamic posturography, and rotational velocity testing recordings. Hands-on laboratory exercises included. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 8440 Medical Issues: Tinnitus, Central Auditory Processing and Auditory Neuropathy Cr. 3

Role of the audiologist in the medical setting; advanced clinical skills and knowledge; health care issues and professional interaction in the medical setting. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 8450 Advanced Auditory/Vestibular Electrodiagnosis for Balance Assessment and Treatment Cr. 4

Advanced evaluation of dizzy/balance patients; traditional test battery use with complex balance patients; recently developed electrophysiological techniques and computerized assessments; expansion of clinical and technical skills; walking and gait analysis. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 8460 Advanced Sensory Aids Cr. 3

New developments in assisted listening devices and cochlear implant protocols. Offered Winter.
Prerequisite: AUD 6530 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BA - BUSINESS ADMINISTRATION

BA 1000 Student Success and Career Development for Business Students Cr. 1

Designed to assist all incoming Mike Ilitch School of Business students in a successful transition to Wayne State University through interactive exercises and engaging assignments, student will develop the insights, skills and attitudes necessary for becoming a successful student. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the School of Business.

BA 1010 Critical Thinking for Consumer Decisions Cr. 3

Development of critical thinking skills and the application of these skills in evaluation and decisions for a broad range of consumer issues including advertising interpretations, purchase decisions, job applications, and consumer protection. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Fine, Performing & Comm. Arts or School of Business.

BA 2020 Introduction to Business Cr. 2

Introduction to each of the functional areas of business including marketing, accounting, finance operations and human resources management. Other topics considered include: the economic and legal environment of business, the globalization of markets, workforce diversity, leadership and entrepreneurship. Offered Every Term.

BA 2300 Quantitative Methods I: Probability and Statistical Inference Cr. 3

Measures of central tendency and dispersion. Introduction to probability; normal, binomial, uniform, and Poisson distributions. Statistical inference and sampling methods. Computer techniques. Offered Every Term.

Prerequisites: ((MAT 1500 with a minimum grade of D- and MAT 2000 with a minimum grade of D-) OR [MAT 1800 with a minimum grade of D-] OR [MAT 1500 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the School of Business.

BA 3400 Quantitative Methods II: Statistical Methods Cr. 3

Uses of statistical techniques in business. Topics include: sampling, hypothesis testing, confidence interval estimation, regression, analysis of variance and chi-square tests. Application to accounting, market research, finance, production and forecasting. Computer techniques. Offered Every Term.

Prerequisites: ((ISM 2300 with a minimum grade of D-) OR [BA 2300 with a minimum grade of D-] OR [ISM 3300 with a minimum grade of D-] OR [ECO 5100 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

BA 6000 Introduction to Accounting and Financial Reporting Cr. 2

Introduction to accounting principles and the understanding and analysis of financial statements. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6005 Basics of Financial Management Cr. 2

Basic aspects of finance: time value of money, financial markets, risk and return, valuation and basic capital budgeting. Required of all graduate students; may be waived only through waiver exam. Offered for graduate credit only Offered Every Term.

Prerequisites: ((BA 6000 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6010 Basics of Business Economics Cr. 2

Survey course; fundamental principles that guide decision making in market-based economic systems. Offered for graduate credit only.

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6015 Marketing Foundations Cr. 2

Fundamental principles that guide decision making in market-based management systems. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6020 Contemporary Principles of Management Cr. 2

Basic principles of organization theory and behavior in contemporary organizational settings. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6025 Basics of Production/Operations Management Cr. 2

Overview of operations management from a strategic perspective.

Emphasis on problems and their solutions. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6090 Quantitative Analysis: Theory and Application Cr. 2

Statistics of association and statistical inference from samples.

Correlation, analysis of variance, multivariate regression, non-parametric statistics. Offered for graduate credit only. Offered Every Term.

Prerequisites: ((MAT 1500 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7000 Managerial Accounting Cr. 3

Fundamental principles; preparation and utilization of financial information for internal management purposes. No credit after ACC 6020. No credit for undergraduate accounting majors. Offered Every Term.

Prerequisites: ((BA 6000 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7020 Corporate Financial Management Cr. 3

Development of tools to evaluate investment and financial decisions in modern global organizations. Offered Every Term.

Prerequisites: ((BA 6005 with a minimum grade of C)) AND ((BA 6010 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7040 Managing Organizational Behavior Cr. 3

Contemporary issues in managing and leading people and organizations.

Topics include: creativity, culture change, leadership, teamwork, cross-cultural factors, performance management, and organizational change.

No credit for undergraduate management majors. Offered Every Term.

Prerequisites: ((BA 6020 with a minimum grade of C)) AND ((BA 6025 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7050 Marketing Strategy Cr. 3

Application of theory, concepts, and models to contemporary marketing issues and problems. Developing and evaluating successful marketing strategies through analysis of customers, competitors, the organization, and the external environment. No credit for undergraduate marketing majors. Offered Every Term.

Prerequisites: ((BA 6015 with a minimum grade of C) AND ((BA 6025 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7070 Social Perspectives on the Business Enterprise Cr. 3

Political, social, legal, ethical, regulatory, environmental, and global issues that interrelate with business decisions in the societal fabric. Offered Every Term.

Prerequisites: ((BA 6090 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7080 Strategic Management Cr. 3

Application of theory and concepts regarding strategic formulation and implementation from the perspective of senior management, to integrate the functional areas and provide a unified direction for the firm when it is operating in complex local and/or global environments. Offered Every Term.

Prerequisites: ((BA 7000 with a minimum grade of C) AND ((BA 7020 with a minimum grade of C) AND ((BA 7040 with a minimum grade of C) AND ((BA 7050 with a minimum grade of C) AND ((BA 7070 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7500 Topics in Business Administration Cr. 3

Selected topics in business administration. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7995 Directed Study Cr. 1-3

Advanced independent readings and research under supervision of a graduate faculty member, in areas of special interest to student and faculty member. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

BA 8050 Seminar in Marketing Theory Cr. 3

Reading seminar; approaches to marketing and consumer behavior theory from historical and philosophy of science perspectives. Contributions from disciplines such as international business, economics, psychology, sociology, anthropology, operations research, and psychometrics. Publishable paper expected of students. Offered Biannually.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8052 Research in Marketing and Consumer Behavior Cr. 3

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. Offered Biannually.

Prerequisites: ((BA 8050 with a minimum grade of C))

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8054 Seminar in Marketing Strategy Cr. 3

Seminar focuses on strategic marketing issues, including marketing strategy theory; innovation theory; corporate, business, and marketing strategy; new product development strategy; industry structure, competition, and competitive advantage; market orientation; alliances and inter-organizational relationships; knowledge management and organizational learning; customer relationship management; and marketing organization. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

BA 8056 Special Topics Seminar in Marketing Cr. 3

Seminar focuses on the product/branding and the distribution/supply chain functions, as well as the public policy issues in marketing and international business theory and the theory of the multinational enterprise. Its topical coverage will change from one cohort to another in light of faculty interest, department and School staffing needs, and dissertation topic interests of the students in the cohort. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

BA 8058 Advanced Topics in Consumer Behavior Cr. 3

Role of consumer in global economy; integrated marketing issues (IMC), movement toward relationship marketing (RM) across the value added chain to the development of consumer analysis. Conditions, issues, and practices; dimensions of strategic advertising. Offered Yearly.

Prerequisites: ((BA 8050 with a minimum grade of C))

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8120 Theory of Finance Cr. 3

Modern corporate finance theory for finance doctoral students. Offered Yearly.

Prerequisites: ((FIN 7220 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

BA 8121 Seminar in Corporate Finance Cr. 3

Theoretical and empirical studies in corporate finance for finance doctoral students. Offered Yearly.

Prerequisites: ((BA 8120 with a minimum grade of C))

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8122 Empirical Methods in Finance Cr. 3

Fundamental asset pricing theories and empirical methods used in modern financial economics for finance doctoral students. Offered Yearly.

Prerequisites: ((BA 8120 with a minimum grade of C))

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8123 Seminar in Corporate Governance Cr. 3

Theories and empirical studies in corporate finance for finance doctoral students. Offered Yearly.

Prerequisites: ((BA 8120 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 8124 Seminar in Asset Pricing Cr. 3

Empirical studies in asset pricing for finance doctoral students. Offered Yearly.

Prerequisites: ((BA 8120 with a minimum grade of C) AND ((BA 8122 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 8220 Seminar in Organizational Behavior Cr. 3

Areas such as motivation, reward systems, leadership, organizational culture and performance, job design, groups and teams, and decision making. Concepts, theories and fundamentals of organizational behavior (OB); areas of current research, application in global business environment. Offered Yearly.

Prerequisites: ([BA 7040 with a minimum grade of C] OR [MGT 7640 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8221 Seminar in Strategic Management Cr. 3

Theories and concepts in the strategic management literature including contemporary concepts that apply to the international context. Offered Yearly.

Prerequisites: ([BA 8220 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8420 Seminar in Organizational Theory Cr. 3

Theories of organization for doctoral students. Offered Yearly.

Prerequisites: ([BA 8220 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8777 Professional Development Seminar for Business Doctoral Students Cr. 1-3

Exposure to professional development areas in preparation for productive academic careers; teaching, research writing, and academic culture. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 3 Credits

BA 8900 Development of Effective Research Programs in Business Cr. 3

For doctoral students with a major cognate in finance, management, or marketing. Development, design and execution of effective research projects. Offered Yearly.

Prerequisites: ([BA 8058 with a minimum grade of C]) AND ([BA 8122 with a minimum grade of C]) AND ([BA 8420 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 8995 Special Research Topics in Business Cr. 1-3

Advanced research topics for business administration Ph.D. students. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

BA 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Dissertation research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 9992 Dissertation II Cr. 7.5

Dissertation research. Offered Every Term.

Prerequisite: BA 9991 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

BA 9993 Dissertation III Cr. 7.5

Dissertation research. Offered Every Term.

Prerequisite: BA 9992 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

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

Dissertation research. Offered Every Term.

Prerequisite: BA 9993 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BA 9994 with a minimum grade of B

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program; enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

BBE - BILINGUAL/BICULTURAL EDUCATION

BBE 5000 Multicultural Education in Urban America Cr. 2

Cultural, social, political and economic realities of our complex, pluralistic society in relation to our education system. Development of analytical and evaluative abilities of teachers to deal with racism, sexism, value clarification and the parity of power. Strategies for multicultural education. Offered Every Term.

BBE 5500 Introduction to Bilingual/Bicultural Education Cr. 3

Survey of the history and legislative background of bilingual/bicultural education in the United States. Emphasis on the foundations, methods, concepts and theories of bilingual/bicultural education. Offered Irregularly.

BBE 6560 Teaching Methods in Bilingual/Bicultural Education Cr. 3

Utilization of traditional and innovative materials, techniques and methods in teaching elementary and secondary school subjects in a bilingual education program. Offered Irregularly.

BBE 6590 Culture and Language in Bilingual/Bicultural Education Cr. 1-3

Research and application of multicultural activities for designing processes to bring language and culture, and instruction in English, into the classroom. Offered Yearly.

Repeatable for 3 Credits

BBE 6600 Internship in Bilingual/Bicultural Teaching Cr. 2-12

Internship in a bilingual, multicultural setting; assessment of the cultural, educational, and linguistic needs of students of limited English-speaking ability. Offered Irregularly.

Repeatable for 12 Credits

BBE 6700 Seminar in Cultural Awareness Cr. 3

Understanding intergroup relations and the appreciation of cultural diversity in a multicultural society such as the United States. Selected topics offered on a semester or yearly basis. Offered Irregularly.

BBE 6850 Applied Linguistics: Issues in Bilingual Education Cr. 3

Current major models of applied English linguistics, contrasting linguistics with special reference to the comparison of English and linguistic minority languages. Offered Yearly.

BBE 9010 Theoretical Implications of Bilingual/Bicultural Education Cr. 3

Theoretical foundations for the development of bilingual/bicultural and multicultural education programs in our schools. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

BBE 9030 Advanced Seminar in Bilingual/Bicultural Education Cr. 2-4

Advanced seminar for doctoral students in the bilingual, multicultural education program. Topics to be announced in Schedule of Classes . Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

BE - BASIC ENGINEERING

BE 1001 Engineering Bridge Mentorship Program Participant I Cr. 1

Required peer mentorship program for Engineering Bridge students. Offered Every Term.

Corequisite: BE 1060

Restriction(s): Enrollment is limited to students with a major in Engineering.

BE 1002 Engineering Bridge Mentorship Program Participant II Cr. 0

Required peer mentorship program for Engineering Bridge students. Offered Winter.

Corequisite: BE 1060

BE 1050 Introduction to the Engineering Profession Cr. 2

This course introduces new engineering students to the profession and practice of engineering, the history of engineering, and its various disciplines. The importance of teams to the practice of engineering is demonstrated. Offered Fall.

BE 1060 Introduction to Engineering Practice and Design Cr. 1

Teamwork and communication development based on exploration of professional opportunities for engineers. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Engineering.

BE 1101 Introduction to Officership Cr. 1

Classroom introduction to leadership, and the experiential examination of leadership, followership, decision-making, and group accomplishment of tasks. Offered Biannually.

BE 1102 Introduction to Leadership Cr. 1

Continuation of B E 1101; focus on communications, leadership, and problem-solving. The light infantry platoon and the troop leading process. Offered Biannually.

Prerequisite: BE 1101 with a minimum grade of C-

BE 1200 Basic Engineering I: Design in Engineering Cr. 3

Core principles of engineering practice: design, teamwork, professional ethics. Offered Fall, Winter.

Prerequisite: MAT 1800 (may be taken concurrently) with a minimum grade of C or MAT 2020 (may be taken concurrently) with a minimum grade of C- or MAT 2030 (may be taken concurrently) with a minimum grade of C- or MAT 2010 (may be taken concurrently) with a minimum grade of C-

Course Material Fees: \$50

BE 1300 Basic Engineering II: Materials Science for Engineering Applications Cr. 3

Fundamentals of materials science; emphasis on how material properties and behavior affect engineering applications. Offered Every Term.

Prerequisites: ([CHM 1225 with a minimum grade of C-] OR [CHM 1220 with a minimum grade of C-]) AND ([CHM 1230 with a minimum grade of C-]) AND (May be taken concurrently: [BE 1200 with a minimum grade of C-]) AND (May be taken concurrently: [PHY 2170 with a minimum grade of C-]) OR [PHY 2175 with a minimum grade of C-]) AND (May be taken concurrently: [MAT 2020 with a minimum grade of C-])

Corequisite: BE 1310

BE 1310 Materials Science for Engineering: Laboratory Cr. 1

Laboratory component of B E 1300. Offered Every Term.

Corequisite: BE 1300

Course Material Fees: \$35

BE 1500 Introduction to Programming and Computation for Engineers Cr. 3

Use of computational tools, such as Excel and MATLAB, to solve engineering problems. Topics include general engineering problem solving, algorithm development, programming, and computational analysis. Offered Fall, Winter.

Prerequisites: ([MAT 2010 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BE 2100 Basic Engineering III: Probability and Statistics in Engineering Cr. 3

An introduction to application of probability theory and statistical methods in engineering, including design and manufacturing. Offered Every Term.

Prerequisite: MAT 2020 (may be taken concurrently) with a minimum grade of C-

BE 2201 Innovative Tactical Leadership Cr. 1

Military organizational leadership with focus on leadership development and interpersonal group dynamics. Offered Biannually.

Prerequisite: BE 1102 with a minimum grade of C-

BE 2202 Leadership in Changing Environments Cr. 2

Challenges of leading in complex contemporary operational environments. Cross-cultural challenges of leadership applied to practical Army leadership tasks and situations. Offered Biannually.

Prerequisite: BE 1102 with a minimum grade of C-

BE 3000 Engineering Bridge Mentorship Program Leader Cr. 0

Documentation of mentor participation in Engineering Bridge Program. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

BE 3301 Leading Small Organizations I Cr. 2

Leadership development and interpersonal and group dynamics. Methods of visualizing, planning and leading organizations to achieve set goals. Offered Biannually.

BE 3302 Leading Small Organizations II Cr. 2

Offered Biannually.

Prerequisite: BE 3301 with a minimum grade of C-

BE 3500 Co-Op Record Cr. 0

Engineering practice under supervision in cooperative education program. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

BE 3510 Co-Op Experience Cr. 1

Engineering practice under supervision in cooperative education program. Written report required. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Repeatable for 4 Credits

BE 3900 National Design Competition Participant Cr. 0

For engineering undergraduates who are active team members in national engineering design competition projects. Satisfactory completion of this course will document active participation throughout the semester. Offered Every Term.

BE 4401 Leadership and Management Cr. 3

Multiple styles and theories of leadership; ethical decision making, especially as relating to changing organizational and individual behavior; accomplishing goals in resource-constrained environments. Offered Biannually.

Prerequisite: BE 3302 with a minimum grade of D-

BE 4402 Military Professionalism and Professional Ethics Cr. 3

Evaluation and assessment of needs of subordinate units and individuals; near-term and short-term plans to address these needs. Analysis of a historical battle as well as analysis of moral and leadership dilemmas in history. Offered Biannually.

Prerequisite: BE 4401 with a minimum grade of C-

BE 5900 National Design Competition Projects Cr. 1-4

Primarily for engineering undergraduates who are dedicating a substantial amount of effort towards college-sponsored national design competition projects. Offered Every Term.

Repeatable for 99 Credits

BE 5995 Special Topics in Engineering Cr. 4

Special topics not covered in other courses; topics announced in Schedule of Classes. Offered Every Term.

Repeatable for 99 Credits

BE 5998 Engineering Honors Thesis Cr. 1-4

Completion of required Honors Thesis. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Repeatable for 99 Credits

BIO - BIOLOGICAL SCIENCES

BIO 1030 Biology Today Cr. 3

Challenges to modern society from population growth, new diseases, environmental degradation, urban pollution; medical advances and ethical dilemmas in decoding human genome; impact of biological findings on political and personal decisions; issues considered in context of principles and strategies of modern biological research. Not for biology major credit. Offered Fall, Winter.

BIO 1050 An Introduction to Life Cr. 4

A factual and conceptual treatment of modern biology at the cell, organismal, and population levels of organization. Meets General Education Laboratory Requirement when elected for 4 credits. No credit after BIO 1500 or BIO 1510. Offered Every Term.

Course Material Fees: \$20

BIO 1500 Basic Life Diversity Cr. 4

Physiology, ecology, evolution, and systematics, their principles, strategies and outcomes in both structure and function. No credit after former BIO 1520. Offered Every Term.

Prerequisites: ([BIO 1050 with a minimum grade of C-] OR [BIO Permit to Reg ACT/SAT with a test score minimum of 21301-99999] OR [BIO Permit to Reg-(L0-L2) BPE with a test score minimum of 21406-99999] OR [BIO 1510 with a minimum grade of C-] OR [BIO 1500 with a minimum grade of C-])

Course Material Fees: \$25

BIO 1510 Basic Life Mechanisms Cr. 4

Factual and conceptual treatment of cell molecules, cell structure, metabolism, genetics, and development. For the science major and certain pre-professional programs. Meets General Education laboratory requirement. BIO 1500 and BIO 1510 required of all biological sciences majors. Only Engineering students may elect for three credits. Offered Every Term.

Prerequisites: ([BIO 1050 with a minimum grade of C-] OR [BIO Permit to Reg ACT/SAT with a test score minimum of 21301-99999] OR [BIO Permit to Reg-(L0-L2) BPE with a test score minimum of 21406-99999] OR [BIO 1510 with a minimum grade of C-] OR [BIO 1500 with a minimum grade of C-])

Course Material Fees: \$25

BIO 2200 Introductory Microbiology Cr. 5

Bacteria and their basic biology; the relationship of microorganisms to man and other living forms, including their ecological importance and their role in the causation of disease; laboratory exercises paralleling the above principles. Offered Every Term.

Prerequisites: ([BIO 1510 with a minimum grade of C-])

Course Material Fees: \$40

BIO 2600 Introduction to Cell Biology Cr. 3

An advanced introduction to the structural and functional biology of the eucaryotic cell. Molecular, biochemical, and functional material learned in other courses reviewed and synthesized as it related to the cell. Offered Every Term.

Prerequisites: ([BIO 1500 with a minimum grade of C-]) AND ([BIO 1510 with a minimum grade of C-])

BIO 2870 Anatomy and Physiology Cr. 5

Detailed study of structure and function of the major systems of the body: skeletal, nervous, muscular, endocrine, circulatory, respiratory, digestive, excretory, and reproductive. No major credit for Biological Sciences majors. Offered Every Term.

Prerequisites: ([BIO 1510 with a minimum grade of C-])

Course Material Fees: \$30

BIO 3070 Genetics Cr. 5

Transmission, nature and action of genetic material in organisms. Laboratory experiments to demonstrate principles of genetics. Offered for five credits to Honors students only; includes lab experience. Offered Every Term.

Prerequisites: ([BIO 2200 with a minimum grade of C-]) AND ([BIO 2600 with a minimum grade of C-])

BIO 3100 Cellular Biochemistry Cr. 3

Biosynthesis and metabolism of proteins, carbohydrates, lipids, steroids, amino acids and nucleic acids. The basic principles of enzyme kinetics in living systems. Offered Every Term.

Prerequisites: ([BIO 2200 with a minimum grade of D-]) AND ([BIO 2600 with a minimum grade of D-]) AND ([CHM 1240 with a minimum grade of D- and CHM 1250 with a minimum grade of D-] OR [CHM 1410 with a minimum grade of D-])

BIO 3110 Biomolecules to Cell Biology: Mastering Concepts Through Teaching Cr. 2

Provide Honors students with a service learning opportunity (peer mentor/assistant in BIO 1510) that will enhance their knowledge of biology while engaging them with experiences in teaching and interacting with students. Offered Fall, Winter.

Prerequisites: ([BIO 1510 with a minimum grade of B]) AND ([BIO 2600 with a minimum grade of B])

Corequisite: HON 3000

Repeatable for 4 Credits

BIO 3200 Human Physiology Cr. 3

Basic principles of human physiology, including major systems from a cellular, molecular, and integrative approach. Offered Every Term.

Prerequisites: ([BIO 2200 with a minimum grade of C- and BIO 2600 with a minimum grade of C-] OR [BIO 2870 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 3500 Ecology and the Environment Cr. 3

Introduction to key ecological concepts illustrated with contemporary environmental issues; basic population, community, ecosystem, landscape, and global ecology. Offered Fall.

Prerequisites: ([BIO 2200 with a minimum grade of C-]) AND ([BIO 2600 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 3800 Botany Cr. 3

Introduction to plant morphology, systematics, development, and physiology. Lectures and hands-on laboratory, readings and discussions. Offered Biannually.

Prerequisites: ([BIO 2600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 3990 Directed Study Cr. 1-4

Primarily for biology majors who wish to continue in a field beyond that covered in regular courses; to be taken under direction of Biological Sciences faculty. Offered Every Term.

Repeatable for 8 Credits

BIO 4110 Biomedical Technology and Molecular Biology Cr. 4

General principles of molecular biology of prokaryotes and eukaryotes. Includes structures of DNA, RNA, and protein, DNA replication and repair, transcription and translation, gene regulation and gene expression. Emphasis on applications in medical biology and biotechnology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports and one long research paper on topic approved by instructor, in addition to other course writing requirements. Offered Fall.

Prerequisites: ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3100 with a minimum grade of C-])

BIO 4120 Comparative Physiology Cr. 4

Physiological processes at the molecular, cellular, and organismal levels. Comparison of major physiological systems across groups of organisms. Lab consists of physiology exercises and lab reports that allow students to explore major conceptual themes in physiology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports, and one long research paper on topic approved by instructor, in addition to other course writing requirements. Offered Every Term.

Prerequisites: ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3200 with a minimum grade of C-])

Course Material Fees: \$20

BIO 4130 General Ecology Cr. 4

Principles of population, community, ecosystem, and landscape ecology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports and one long research paper on topic approved by instructor, in addition to other course writing requirements. Offered Winter.

Prerequisites: ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3500 with a minimum grade of C-])

Course Material Fees: \$20

BIO 4200 Evolution Cr. 3

Evidence for mechanisms of evolution at the molecular, organismal and population level. Offered Every Term.

Prerequisites: ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3100 with a minimum grade of C-] OR [BIO 3200 with a minimum grade of C-] OR [BIO 3500 with a minimum grade of C-])

BIO 4350 Laboratory Research Experience in Molecular Bacterial Genetics Cr. 3

Discovery-based laboratory research experience centered on identification of genes controlling bacterial behavior. Students will identify genes that control the developmental life cycle of a soil bacterium, design experiments to characterize any genes identified, and characterize their role in regulating bacterial behavior. Students will employ a series of common bacteriology and molecular biology techniques including bacterial transformation, phenotypic assays, PCR amplification, cloning, plasmid isolation, immunoblot, and web-based bioinformatic analyses. Offered Irregularly.

Prerequisite: BIO 2200 with a minimum grade of C- and BIO 3070 with a minimum grade of C-

BIO 4420 Biogeography Cr. 3

An examination of current and past spatial distributions of biological diversity with an emphasis on the ecological, evolutionary, geological, and climatological processes underlying biogeographic variation. Offered Biannually.

Prerequisites: ([BIO 3500 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 4630 Histology Cr. 4

Characteristics and identification of normal mammalian tissues. Micro-anatomy of the mammal. Functional interpretation of microstructure and fine structure. Offered Winter, Spring/Summer.

Prerequisites: ([BIO 2600 with a minimum grade of C-] OR [BIO 2870 with a minimum grade of C-])

Course Material Fees: \$20

BIO 5020 Comprehensive Virology Cr. 3

Course provides students with a comprehensive knowledge of molecular virology, from viral classification, vital structures and life cycles, to host response and global health. Offered for undergraduate credit only. Offered Fall.

Prerequisites: ([BIO 2200 with a minimum grade of C-]) AND ([BIO 2600 with a minimum grade of C-]) AND ([BIO 3070 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: BIO 7020

BIO 5040 Biometry Cr. 4

Quantitative methods in biology. Statistical approach to data analysis and the design of experiments. Laboratory section permits actual analysis of selected statistical problems. Offered Irregularly.

Prerequisites: ([BIO 3070 with a minimum grade of C-] OR [BIO 4130 with a minimum grade of C-]) AND ([MAT 1800 with a minimum grade of C-])

Course Material Fees: \$15

BIO 5060 Special Topics Cr. 6

Formalized treatment of the current state of knowledge in a significant area of biology. Topics to be announced in Schedule of Classes. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ([BIO 1500 with a minimum grade of C-]) AND ([BIO 1510 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

BIO 5080 Cellular Basis of Animal Behavior Cr. 3

Relationship between behavior and neuroscience using a variety of animal models, each examined from the level of natural behavior progressively to the cellular level. Topics include: sensory systems, motor behavior, and learning. Offered Winter.

Prerequisites: ([BIO 2600 with a minimum grade of C-])

Equivalent: PSY 5080

BIO 5100 Aquatic Ecology Cr. 4

Physical, chemical and biological processes occurring in lakes, streams and wetlands. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ([BIO 1500 with a minimum grade of C-]) AND ([BIO 3500 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$67

BIO 5150 Genomics Cr. 3

Introduction to the theory and practice of genomics. Topics include sequencing and mapping, overview of genomes, comparative genomics, transcriptomes, population genetics and genomics, basic bioinformatics and statistics, population-level variation (SNPs, MNPs, indels), ethics, evolutionary genomics, and functional genomics. Offered for undergraduate credit only. Offered Fall.

Prerequisites: ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3100 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5180 Field Investigations in Biological Sciences Cr. 12

Field studies of one to fifteen weeks, emphasizing biological principles and techniques demonstrated in the field. Offered Irregularly.

Prerequisites: ([BIO 2200 with a minimum grade of C-] OR [BIO 2600 with a minimum grade of C-]) AND ([BIO 1500 with a minimum grade of C-]) AND ([BIO 1510 with a minimum grade of C-])

Course Material Fees: \$10

Repeatable for 20 Credits

BIO 5240 Molecular Systems Biology Cr. 3

Introduces the basic design principles of biological circuits and networks and their functional designs at the molecular, pathway, whole cell, and population levels. Students will perform a comprehensive group project to build a computational model of a simple biological network. Offered Biannually.

Prerequisites: ([BIO 3070 and PHY 2140])

BIO 5280 Bioinformatics Cr. 3

Basic Linux commands and PERL programming skills, sequence comparison, phylogenetic analysis, gene/genome patterns. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3100 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5330 Principles and Applications of Biotechnology I Cr. 3

Review of origins of molecular biotechnology and its characteristic technologies; survey of applications of biotechnology to problems in industries. Offered Fall.

Prerequisites: ([BIO 2200 with a minimum grade of C-]) AND ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3100 with a minimum grade of C-])

BIO 5440 Terrestrial Ecology Cr. 4

Ecology of forests and grasslands. Field study and interpretation of ecological processes. Importance of species-site relationships and disturbance history. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ([BIO 1500 with a minimum grade of C-]) AND ([BIO 4130 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$110

Equivalent: BIO 7440

BIO 5490 Population and Community Ecology Cr. 3

Population dynamics of animals and plants. Life history theory. Species interactions. Structure and dynamics of communities. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ([BIO 1500 with a minimum grade of C-]) AND ([BIO 4130 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: BIO 7490

BIO 5540 Ecosystem and Landscape Ecology Cr. 3

Ecosystem productivity. Carbon dynamics and nutrient cycling in ecosystems. Causes of ecological pattern on landscapes. Interrelationships of ecological pattern and process. Offered for undergraduate credit only. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: BIO 7540

BIO 5610 Structural Embryology Cr. 1

Slides, models, and 4-D computer programs used to enable the student to know and recognize the cascade of structural changes that take place during the embryological developmental pathways. Offered Winter.

Prerequisites: (May be taken concurrently: [BIO 5620 with a minimum grade of C-])

Course Material Fees: \$20

BIO 5620 Developmental Biology Cr. 3

An analytical and comparative study of genetic and cellular mechanisms and their interaction with environmental factors to effect the developmental mechanisms which produce the adult organism. Origin and unfolding of structural patterns characteristic of different species; their evolutionary origins. Offered Winter.

Prerequisites: ([BIO 3070 with a minimum grade of C-])

BIO 5640 Cancer Biology Cr. 3

Introduction to integrated analysis of cancer and cell biology, pathology, etiology and therapy. Offered Irregularly.

Prerequisites: ([BIO 2600 with a minimum grade of C-]) AND ([BIO 3070 with a minimum grade of C-]) AND ([BIO 3100 with a minimum grade of C-])

BIO 5680 Basic Endocrinology Cr. 3

Basic description of the human endocrine system, the endocrine control of several physiologic processes (growth, development, metabolism and reproduction), and a description of common endocrine disorders. Offered Fall.

Prerequisites: ([BIO 3200 with a minimum grade of C-]) OR [BIO 4120 with a minimum grade of C-])

Equivalent: PSL 5680

BIO 5750 Biology of Aging Cr. 3

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. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([BIO 3070 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5996 Senior Research Cr. 1-2

Original research. To be taken under direction of Biological Sciences faculty. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students.

Repeatable for 3 Credits

BIO 6000 Molecular Cell Biology I Cr. 3

Analysis of cell structure at the molecular and cellular levels and the physiological consequences of these structures: isolation, physico-chemical properties, and biological attributes of cells, organelles, and biopolymers including nucleic acids, proteins, and lipids. Offered Fall.

Prerequisite: BIO 2600 (may be taken concurrently) with a minimum grade of C and BIO 3100 (may be taken concurrently) with a minimum grade of C

BIO 6010 Molecular Cell Biology II Cr. 3

Analysis of cell regulation at the molecular level. Cell development and differentiation. Genetic mechanisms including: DNA synthesis and repair, mechanism of gene expression and control. Offered Winter.

Prerequisite: BIO 6000 with a minimum grade of C-

BIO 6020 Methods of Analyses Cr. 4

Design and execution of experiments in molecular biology. Topics include: laboratory safety, scientific documentation, database searching, development of experimental protocols, error analysis, solutions and buffers, electrophoretic separation of proteins and nucleic acids, basic immunohistochemistry, bioimaging, and scientific ethics. Offered Fall.

Prerequisites: (May be taken concurrently: [BIO 4110 with a minimum grade of C-]) OR [BIO 5330 with a minimum grade of C-])

Course Material Fees: \$50

BIO 6055 Biology of the Eye Cr. 3

Introduction to biology of eye structure/function, and to causes and clinical treatments of eye-related disorders and diseases. Offered for undergraduate credit only. Offered Fall.

Prerequisite: BIO 2600 with a minimum grade of C- and BIO 3100 with a minimum grade of C-

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$25

Equivalent: ANA 6050, PYC 6050

BIO 6060 Molecular Evolution Cr. 3

Patterns and processes of evolutionary change on the DNA sequence level. Emphasis on models of nucleotide substitutions, and genic evolution. Methods of phylogenetic inference. Offered Irregularly.

Prerequisite: BIO 3070 with a minimum grade of C- and (BIO 4200 (may be taken concurrently) with a minimum grade of C-

BIO 6070 Human Genetics Cr. 3

Principles of genetics as applied to humans. Topics include pedigree analysis, simple and complex inheritance patterns, cytogenetics, development and sex determination, role of mutations in disease, genes and cancer, genetic testing and forensics, genomics, linkage, genetics of behavior, and human evolution. Offered Irregularly.

Prerequisite: BIO 3070 with a minimum grade of C-

BIO 6090 Population Genetics Cr. 3

Theoretical bases for microevolutionary change in natural populations of organisms; basic to study of evolutionary genetics and evolutionary ecology. Offered Irregularly.

Prerequisite: BIO 3070 with a minimum grade of C-

BIO 6120 Molecular Biology Laboratory I Cr. 3

Laboratory exercises illustrate methods and concepts of molecular biology and recombinant DNA analysis. Offered Winter.

Course Material Fees: \$30

BIO 6160 Proteins and Proteomics Cr. 3

Structure and dynamics of proteins at the molecular level. Strategies used to biochemically purify, analyze, and characterize proteins. Offered Winter.

Prerequisite: BIO 3100 with a minimum grade of C- or CHM 5600 with a minimum grade of C- or CHM 6620 with a minimum grade of C-

BIO 6180 Membrane Biology Cr. 3

Comprehensive analysis of cellular and model membranes integrating molecular structure and physiological properties. Structural, dynamic, and physiological properties examined, including molecular and macromolecular assemblies, physical and chemical analysis of molecular motion, functional aspects including trans-membrane signaling. Offered Irregularly.

Prerequisite: BIO 6000 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 6190 Advanced Special Topics Cr. 6

Formalized treatment of current state of knowledge in a significant area of biology. Topics to be announced in Schedule of Classes. Offered Irregularly.

Repeatable for 6 Credits

BIO 6330 Principles and Applications of Biotechnology II Cr. 3

Application of molecular biology and recombinant DNA technology of contemporary eukaryotic systems. Topics include: specialized application of PCR for cloning, generation of antibodies, the expression of recombinant proteins in cultured cells and transgenic animal models. Offered Winter.

Prerequisite: BIO 5330 with a minimum grade of C-

BIO 6620 Advanced Evolution Cr. 3

Continuation of BIO 4130; emphasis on evolutionary biology. Topics include: history of evolutionary thought, origins of life, evolution of the cell, evolution of genes, evolution and behavior, evolution of life history traits, phylogenetics, historical biogeography, tempo and mode of evolution, species concepts and speciation, nature of adaptation and adaptive radiations. Offered Irregularly.

Prerequisite: BIO 4200 with a minimum grade of C-

BIO 6690 Neurobiology I Cr. 3

Electrical and chemical signal transmission and signal processing in the nervous system. Integration of these functions into complex sensory and control mechanisms. Molecular mechanisms of electrical excitability and ion channels, neurotransmitters and receptors, second messengers, and feedback circuits. Neurobiology of motor control, sensory and regulatory systems. Offered Winter.

Prerequisite: BIO 3100 with a minimum grade of C- and (BIO 4120 (may be taken concurrently) with a minimum grade of C-

BIO 6990 Honors Directed Study in Biology Cr. 1-4

To be taken under direction of Biological Sciences faculty. Offered for undergraduate credit only Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Biological Sciences Honors or Biological Sciences; enrollment is limited to Undergraduate level students; enrollment limited to students in a BS in Biological Science or Bachelor of Arts degrees.

Repeatable for 99 Credits

BIO 6994 Technical Communication in Molecular Biotechnology Cr. 3

Methods of written and oral communication in the biotechnology field. Offered Winter.

BIO 6999 Terminal Essay: Honors Program Cr. 2

Preparation of a terminal essay, satisfactory completion of which assures Honors graduation, providing performance in preceding Honors courses has been at Honors level; to be taken under direction of Biological Sciences faculty. Offered for undergraduate credit only. Offered Every Term.

Prerequisite: BIO 6990 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biological Sciences Honors; enrollment is limited to Undergraduate level students.

BIO 7000 Recent Advances in Cellular and Developmental Biology Cr. 3

Formalized and in-depth treatment of the current state of knowledge in a significant area of cell and molecular biology. Topics to be announced in Schedule of Classes . Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

BIO 7011 Principles of Toxicology Cr. 3

Basic concepts and principles of toxicology, including toxicity of major classes of chemicals (pesticides, solvents, metals) and organ systems (renal, immune, digestive, neuro and respiratory) affected. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PHC 7410

BIO 7020 Comprehensive Virology Cr. 3

Course provides students with a comprehensive knowledge of molecular virology, from viral classification, vital structures and life cycles, to host response and global health. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7040 Signaling Transduction Mechanisms Cr. 3

Overview of signaling strategies and mechanisms used by prokaryotes and eukaryotes (including plants) to sense and respond to extracellular or intracellular stimuli. Additional study of bioinformatic, biochemical, and genetics approaches to characterization of signaling proteins, systems and networks. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7055 Biology of the Eye Cr. 3

Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. Offered Fall.

Prerequisite: BIO 2600 with a minimum grade of C- and BIO 3100 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANA 7055

BIO 7060 Evolutionary and Developmental Biology Cr. 3

Introduction to animal diversity. Genetic pathways and networks in development; focus on limb and organ formation. Evolving developmental pathways: case studies. Genetic source materials for developmental evolution. Speciation and developmental evolution. Offered Biannually.
Prerequisite: BIO 5620 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7090 Molecular Genetics of Development Cr. 3

An examination of the current and classical research literature dealing with the role of gene action in development. Offered Irregularly.
Prerequisite: BIO 5620 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7110 Aquatic Ecology Cr. 4

Physical, chemical and biological processes occurring in lakes, streams, and wetlands. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$67

Equivalent: BIO 5100

BIO 7150 Genomics Cr. 3

Introduction to the theory and practice of genomics. Topics include sequencing and mapping, overview of genomes, comparative genomics, transcriptomes, population genetics and genomics, basic bioinformatics and statistics, population-level variation (SNPs, MNPs, indels), ethics, evolutionary genomics, and functional genomics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BIO 5150

BIO 7180 Membrane Biology Cr. 3

Comprehensive analysis of cellular and model membranes integrating molecular structure and physiological properties. Structural, dynamic, and physiological properties examined, including molecular and macromolecular assemblies, physical and chemical analysis of molecular motion, functional aspects including trans-membrane signaling. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7240 Molecular Systems Biology Cr. 3

Introduces the basic design principles of biological circuits and networks and their functional designs at the molecular, pathway, whole cell, and population levels. Students will perform a comprehensive group project to build a computational model of a simple biological network. Offered Biannually.

Prerequisites: ([BIO 3070 and PHY 2140])

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7280 Bioinformatics Cr. 3

Basic Linux commands and PERL programming skills, sequence comparison, phylogenetic analysis, gene/genome patterns. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7440 Terrestrial Ecology Cr. 4

Ecology of forests and grasslands. Field study and interpretation of ecological processes. Importance of species-site relationships and disturbance history. Offered Biannually.

Prerequisite: BIO 1500 with a minimum grade of C- and BIO 4130 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$110

BIO 7490 Population and Community Ecology Cr. 3

Population dynamics of animals and plants. Life history theory. Species interactions. Structure and dynamics of communities. Offered Biannually.

Prerequisite: BIO 1500 with a minimum grade of C- and BIO 4130 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BIO 5490

BIO 7500 Prokaryotic Gene Structure and Function Cr. 4

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. Offered Biannually.

Prerequisite: BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7510 Eukaryotic Gene Structure and Function Cr. 4

Knowledge of current molecular technology is absolute prerequisite for this course; prerequisite course must have been satisfied. Analysis of structure, replication, expression and regulation of eukaryotic genome. Experimental approaches to study eukaryotic gene expression, critical comprehension of current research, design of experiments in gene expression. Offered Biannually.

Prerequisite: BIO 6330 with a minimum grade of C- or BIO 7780 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7540 Ecosystem and Landscape Ecology Cr. 3

Ecosystem productivity. Carbon dynamics and nutrient cycling in ecosystems. Causes of ecological pattern on landscapes. Interrelationships of ecological pattern and process. Offered Biannually.

Prerequisite: BIO 1500 with a minimum grade of C- and BIO 4130 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BIO 5540

BIO 7660 Neurobiology II Cr. 3

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. Offered Biannually (Fall).

Prerequisite: BIO 6690 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7750 Biology of Aging Cr. 3

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. Offered Winter.

Prerequisite: BIO 3070 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

BIO 7780 Genetic Engineering Laboratory Cr. 2

Continuation of BIO 6120 laboratory experience; screening procedures and DNA sequencing methods. Offered Irregularly.

Prerequisite: BIO 6120 with a minimum grade of C and BIO 6330 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

BIO 7996 Research Problems Cr. 1-8

Original investigation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

BIO 8000 Special Topics Cr. 1-6

Various frontier aspects of biology. Work may include lectures, laboratories or discussion. Topics to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

BIO 8995 Graduate Seminar in Biology Cr. 2

Presentations by graduate staff, advanced students, visiting lecturers.
Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Biological Sciences; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

Repeatable for 4 Credits

BIO 8996 Research in Molecular Biotechnology Cr. 1-4

Students spend two semesters doing research under the guidance of faculty associated with the Molecular Biotechnology Program and in other laboratories. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

BIO 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BIO 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BIO 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BIO 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

BIO 9996 Lab Rotation Cr. 2

Research training in faculty laboratories on a rotating basis, up to two labs per semester. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

BIO 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

BLW - BUSINESS LAW

BLW 2510 Business Law I Cr. 3

Introduction to the domestic and international legal systems as they relate to business. Impact of the legal environment on management decision-making and the legal and ethical implications of contracts and sales, including product liability. No credit after ACC 2510. Offered Every Term.

Prerequisites: ([BA 2020 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

BLW 5190 Business Law II Cr. 3

Legal, ethical and managerial implications of various forms of organizing and operating a business; corporations, partnerships, limited liability companies, sole proprietorships. Negotiable instruments and the banking system; agency and professional liability. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([ACC 2510 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

BLW 7210 Business Law for Entrepreneurs Cr. 3

Legal issues related to building and financing of new ventures, including contract law, leases, intellectual property and employment law; formation and operation of business enterprises including sole proprietorships, partnerships, limited liability companies and corporations; benefits and disadvantages of each type; formation, sale or dissolution; tax issues and record-keeping. No credit after ACC 7210. Offered Winter.

Prerequisites: ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BLW 7220 Law of Corporate Management and Finance Cr. 3

Law governing business corporations; fiduciary duties of managers and directors in situations such as mergers, acquisitions, securities offerings, market domination, litigation. No credit after ACC 7220. Offered Irregularly.

Prerequisites: ([BA 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BMB - BIOCHEMISTRY AND MOLECULAR BIOLOGY

BMB 7010 General Biochemistry Lecture Cr. 4

Introduction to biochemistry: structure of biological molecules, enzymes, bioenergetics, intermediary metabolism. Biosynthesis of DNA, RNA, and proteins. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

BMB 7020 Biochemistry Laboratory Rotation Cr. 3

Research projects with various faculty. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

BMB 7030 Core Concepts in Technologies in Biochemistry and Molecular Biology Cr. 4

Methods-based approach to understanding core concepts in biochemistry and biotechnology. Students acquire competence enabling them to explain and implement these approaches. Offered Fall.

Corequisite: BMB 7010

Restriction(s): Enrollment is limited to Graduate level students.

BMB 7140 Foundations of Computational Biology Cr. 3

Introduction to basic concepts of linear algebra and their application to biomedical research data analysis. MATLAB programs are introduced and employed as the tool for practical implementation of computational methods. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: IBS 7140

BMB 7320 Protein Structure and Function Cr. 3

Structure, function, and design of proteins: architecture, function, regulation, assembly and evolution of proteins and protein complexes; theory and techniques of kinetic analysis; newer techniques of protein design and engineering. Offered Winter.

Prerequisite: BMB 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

BMB 7330 Advanced Molecular Biology Cr. 2

Modern topics in biochemistry, including nucleic acid dynamics, genomic structure, DNA replication and repair, transcription, RNA processing, translation and protein synthesis. Offered Winter.

Prerequisite: BMB 7010 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: IBS 7330

BMB 7360 Advanced Structural Biology Cr. 2

Determination of structure and dynamics of biological molecules by NMR and crystallography; emphasis on protein structure and function. Offered Winter.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

BMB 7670 Advanced Biochemistry Laboratory Cr. 2-10

Advanced laboratory techniques as applied to investigations of biological materials. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

BMB 7890 Journal Club Cr. 1

Student presentations of papers from recent biochemistry literature; recommended for graduate students in biochemistry only. Offered Fall, Winter.

Prerequisite: BMB 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

BMB 7996 Research Cr. 1-15

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 30 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

BMB 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BMB 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BMB 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BMB 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

BMB 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

BME - BIOMEDICAL ENGINEERING

BME 1910 Biomedical Engineering Design Lab I Cr. 1

Application of engineering principles to biomedical engineering problems through laboratory and design exercises. First of a six-semester sequence; work on a biomedical engineering team; basics of biomedical engineering design. Offered Fall.

Prerequisites: (May be taken concurrently: [BE 1500 with a minimum grade of C-])

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering, Biomedical Engg Honors or Pre-Biomedical Engineering; enrollment limited to students in the BS in Biomedical Engineering or UG Undeclared/Non-Degree (EN) programs; enrollment is limited to Undergraduate level students.

Course Material Fees: \$25

BME 1920 Biomedical Engineering Design Lab II Cr. 1

Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Second of a six-semester sequence; basic analysis of biomaterials and design importance of materials. Offered Winter.

Prerequisite: BE 1300 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering, Biomedical Engg Honors or Pre-Biomedical Engineering; enrollment limited to students in the BS in Biomedical Engineering or UG Undeclared/Non-Degree (EN) programs; enrollment is limited to Undergraduate level students.

Course Material Fees: \$100

BME 1925 Biomedical Engineering Design Laboratory: Jump Start I Cr. 2

Laboratory and design exercises focusing on fundamental design processes for biomedical engineering and the application of materials science to BME. This course replaces the BME 1910-BME 1920 sequence for students who transfer into the program in the second or third curricular year. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering, Biomedical Engg Honors or Pre-Biomedical Engineering; enrollment limited to students in the BS in Biomedical Engineering program; enrollment limited to students in the College of Engineering.

Course Material Fees: \$43

BME 2010 Introduction to Physiology for Engineers Cr. 2

Introduction to human physiological and pathophysiological processes. Offered Yearly.

Prerequisite: BIO 1510 with a minimum grade of C- and CHM 1240 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the College of Engineering.

BME 2070 Introduction to Anatomy for Engineers Cr. 2

A text and models based anatomy course for undergraduate students in biomedical engineering. This course is intended to give the students an introductory experience of the study of human anatomy in relation to engineering principles. Offered Fall.

Prerequisites: ([BIO 1510 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in a BS in Biomedical Engg degree.

Course Material Fees: \$25

BME 2910 Biomedical Engineering Design Lab III Cr. 1

Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Third of a six-semester sequence; analysis of musculoskeletal forces biomechanics. Offered Fall.

Prerequisite: (BME 1920 with a minimum grade of C- or BME 1925 with a minimum grade of C-) and ME 2410 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the BS in Biomedical Engineering program; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

BME 2920 Biomedical Engineering Design Lab IV Cr. 1

Application of engineering principles to biomedical engineering problems through laboratory and design exercises involving tissue biomechanics. Introduction to finite element modeling. Fourth of a six-semester sequence. Offered Winter.

Prerequisite: BE 2100 (may be taken concurrently) with a minimum grade of C- and BME 2010 (may be taken concurrently) with a minimum grade of C- and ME 2420 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the BS in Biomedical Engineering program; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

BME 3470 Biomedical Signals and Systems Cr. 3

Mathematical, engineering and computer techniques for describing and analyzing biomedical signals, including ECG, EEG, EMG, blood pressure, and tomographic images. Offered Fall.

Prerequisites: (May be taken concurrently: [BME 3910 with a minimum grade of C-]) AND ([ECE 3320 with a minimum grade of C-])

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$50

BME 3910 Biomedical Engineering Design Lab V Cr. 1

Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Focus on measurement, analysis, modeling, and interaction with biomedical signals from living systems. Fifth of a six-semester sequence. Offered Fall.

Prerequisite: BE 1500 with a minimum grade of C- and MAT 2150 with a minimum grade of C- and ENG 3050 with a minimum grade of C- and BME 3470 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

BME 3920 Biomedical Engineering Design Lab VI Cr. 2

Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Introduction to the capstone design process. Integration of the design process with the complete government regulation system for medical device design. Use of advanced CAE tools for analysis. Sixth of a six-semester sequence. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$100

BME 4010 Engineering Physiology Laboratory Cr. 1

Measurement and analysis of physiological signals on living systems, with focus on neural, cardiovascular, respiratory and muscular systems. Includes a student-designed experiment on a physiological system. Offered Winter.

Prerequisites: ([BME 2010 with a minimum grade of C-])

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$30

BME 4210 Introduction to Biomechanics Cr. 3

Broad introduction to the application of mechanical engineering principles to biomedical engineering, including motion analysis, injury and forensic biomechanics, cardiovascular and pulmonary mechanics, and design of implants with mechanical functions. Offered Winter.

Prerequisite: CHE 3200 with a minimum grade of C- and ME 2420 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

BME 4310 Introduction to Biomaterials Cr. 3

Broad introduction to the field of biomaterials and its application to tissue engineering, implant design, controlled drug delivery, and designer materials for therapeutic use. Offered Winter.

Prerequisite: CHE 3200 with a minimum grade of C- and ME 2420 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

BME 4410 Introduction to Biomedical Instrumentation Cr. 3

Broad introduction to the use and design of instrumentation for biomedical applications, in both clinical and research use; includes filtering techniques, safety issues, and special concerns for implanted and external systems. Offered Winter.

Prerequisites: ([BME 3470 with a minimum grade of D-]) AND ([ECE 3300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

BME 4910 Biomedical Engineering Capstone Design I Cr. 3

First in a two-semester sequence during which student teams develop a design to address a biomedical engineering challenge; includes discussions with clinical faculty, analysis of current solutions, and finalization of conceptual design. Offered Fall.

Prerequisite: BME 3920 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$50

BME 4920 Biomedical Engineering Capstone Design II Cr. 3

Second of a two-semester sequence. Students develop and test a prototype of their biomedical engineering design; culminates in a public design expo to exhibit student designs. Offered Winter.

Prerequisite: BME 4910 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$50

BME 5005 Intro:Cell Biol&Physol:Engrs Cr. 2

Offered Every Term.

BME 5010 Quantitative Physiology Cr. 4

Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models where feasible. Offered Fall, Winter.

Prerequisites: ([BME 5005 with a minimum grade of C] OR [BME 2010 with a minimum grade of C])

Equivalent: CHE 5100, ECE 5100, IE 5100, ME 5100

BME 5020 Computer and Mathematical Applications in Biomedical Engineering Cr. 4

Application of numerical methods in biomedical engineering. Data acquisition, reduction, and analysis using numerical methods and computer programming for such tasks. Offered Winter.

BME 5040 Fundamentals of Engineering Analysis Cr. 2

Intended to train biomedical engineering students, who have no engineering background, with fundamental principles of engineering and basics of an engineering programming language. It includes Matlab programming language and basics of engineering statics, dynamics, strength of materials, and electrical circuits. Offered Fall.

BME 5070 Engineering Anatomy Cr. 4

A cadaver based anatomy course for undergraduate students and MS-level students in biomedical engineering. This hands-on course is intended to give the students directed experience of the study of human anatomy in relation to engineering principles. The histological study of tissues in relation to mechanical function of the organism is included in this study. Offered Winter.

Prerequisites: ([BME 2070 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in a BS in Biomedical Engg degree.

Course Material Fees: \$225

BME 5130 Vehicle Safety Engineering Cr. 4

Role of vehicle in road safety, occupation and pedestrian injury mechanisms, measures of vehicle safety performance, driver behavior and vehicle interface. Use of new technology to improve vehicle safety. Offered Irregularly.

BME 5210 Musculoskeletal Biomechanics Cr. 4

Structure and properties of the major tissue components of the musculoskeletal system and evaluation of how tissues combine to provide support and motion to the body. Offered Fall.

Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C

Equivalent: ME 5160

BME 5310 Device and Drug Approval and the FDA Cr. 3

Government regulations and industrial procedures that lead to device/drug approval. Offered Spring/Summer.

Prerequisite: BME 5010 with a minimum grade of C

BME 5350 Regenerative Biology & Medicine for Biomedical Engineers Cr. 4

Introduces students specializing in biomedical engineering and premedical students to the conceptual and methodological principles of modern regenerative biology and medicine. Includes a review of research methods and achievements in this field and the translational applications of regenerative biology to tissue engineering and the development of regenerative therapies. Offered Winter, Spring/Summer.

Prerequisites: ([BME 2070 with a minimum grade of C-])

BME 5360 Histology and Embryology Cr. 4

Examines the normal structure and development of human tissues and organisms and the applications of this knowledge to biomedical engineering. Working with microscopes, students will study the molecular and cellular characteristics of different tissues and the lab procedures used for the analysis of tissue specimens. Particular attention is focused on technical principles of tissue engineering of human organs in experimental and clinical settings. Offered Fall, Spring/Summer.

Prerequisites: ([BME 2070 with a minimum grade of C-])

BME 5370 Introduction to Biomaterials Cr. 4

Introduction to study of both biological materials (bone, muscle, etc.) and materials for medical applications. Topics include tissue properties and effects of pathology, biocompatibility, and design considerations. Offered Winter.

Prerequisite: BE 1300 with a minimum grade of C- or BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C

Equivalent: ME 5180

BME 5380 Biocompatibility Cr. 4

Wound healing and the tissue response to foreign materials. The organization, activation, and mechanisms of the immune system. Bioactive materials and the molecular basis for surface recognition and masking. Offered Irregularly.

Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C

Equivalent: MSE 5385

BME 5450 Microscopic Analysis: Methods & Instrumentation Cr. 4

Provides the students specializing in biomedical engineering with a basis for understanding the modern methods of microscopic analysis and the design of different types of instrumentation used for microscopic analysis and imaging. Offered Winter, Spring/Summer.

Prerequisites: ([BME 2070 with a minimum grade of C-])

BME 5510 Introduction to Clinical Engineering and Technology Cr. 2

Fundamental topics, including evolution of clinical engineering, medical technology, risk management, patient safety, medical equipment planning. Offered Winter.

Prerequisite: BME 5010 with a minimum grade of C

BME 5530 Mechatronic System Design I Cr. 4

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. Offered Fall.

Prerequisites: ([ECE 4600])

Equivalent: ECE 5370

BME 5540 Mechatronic System Design II Cr. 4

Continuation of BME 5530. Offered Winter.

Prerequisites: ([ECE 4600])

Equivalent: ECE 5380

BME 5990 Directed Study Cr. 1-4

Independent projects on subjects in the field of biomedical engineering. Offered Every Term.

Repeatable for 998.99 Credits

BME 5995 Special Topics in Biomedical Engineering I Cr. 1-4

Topics as announced in Schedule of Classes. Offered Irregularly.

BME 6130 Accident Reconstruction Cr. 3

Passenger car and light truck behavior in collisions; recognition of roadway markings and vehicle damage used to analyze vehicle accidents and to use that evidence to reconstruct driver, vehicle and occupant dynamics at the time of the collision. Offered Spring/Summer.

Prerequisite: BME 5040 with a minimum grade of C

BME 6470 Smart Sensor Technology I: Design Cr. 4

Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. Offered Fall.

Equivalent: ECE 6570, PHY 6570

BME 6480 Biomedical Instrumentation Cr. 4

Engineering principles of physiological measurements. Signal conditioning equipment, amplifiers, recorders and transducers. Recent advances. Offered Winter.

Prerequisites: ([BME 5020]) AND ([ECE 3300] OR [BME 5010] OR [BMS 6550])

Equivalent: ECE 6180, IE 6180, ME 6180

BME 6500 Enabling Technology Cr. 3,4

Principles of application of enabling technology: across life stages, for differing ethnic and cultural backgrounds, for individuals with varying functional abilities. Offered Irregularly.

Equivalent: ECE 6100

BME 6991 Internship in Industry Cr. 1-4

Industrial internship in biomedical engineering. Offered Every Term.

Repeatable for 99 Credits

BME 7010 Functional Anatomy Cr. 4

Gross dissection-based course designed to introduce students to the anatomical structures associated with major physiological functions important to biomedical engineering. Offered Spring/Summer.

Prerequisite: BME 5010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$100

BME 7020 Cardiovascular Systems Modeling Cr. 4

Application of engineering principals and mathematical and computational techniques to cardiovascular systems. Partial differential equations, signal transduction pathway and biotransport modeling, and introduction to systems biology approaches. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

BME 7030 Mechanisms and Models of Cellular Regulation for Engineering Cr. 3

Basic concepts of intracellular signaling pathways in response to environmental stimuli such as biomaterials and mechanical forces. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

BME 7100 Mathematical Modeling in Impact Biomechanics Cr. 4

Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.

Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ECE 7100, IE 7100, ME 7100

BME 7120 Applied Finite Element Methods in Biomechanical Analysis Cr. 4

Structural, stress, and strain analysis of the human body and/or artificial implants, using realistic biomechanical data for relevant tissues and material. Theoretical background and applied analysis. Offered Irregularly.

Prerequisite: BME 5040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

BME 7130 Computational Methods in Biology Cr. 3

Theory and computational methods for modeling the dynamic and thermodynamic properties of biomolecular systems. Methods for modeling biological systems involving biofluid dynamics. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

BME 7150 Biomechanics of Blast-Related Injuries Cr. 3

This course covers new and old information developed by military researchers on injuries sustained by military personnel due to explosions or blasts caused by a variety of weapon systems. Injuries to body regions from head to foot are discussed. Particular emphasis is placed on injuries to the spine and lower extremities for the mounted soldier and on brain injury for both the mounted and dismounted soldier. The course includes the modeling of blast and blast-related effects on selected body regions. Offered Fall.

Prerequisite: BME 7100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

BME 7160 Impact Biomechanics Cr. 4

Biomechanical response of the body regions and the whole body to impact. Mechanisms of injury in blunt impact. Effects of restraints on injury reduction. Development of test surrogates such as dummies. Offered Fall.

Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

Equivalent: ECE 7160, ME 7160

BME 7170 Experimental Methods in Impact Biomechanics Cr. 4

Lecture and laboratory combined; principles of impact testing; hands-on experience in use of impact-test equipment, including sled, pendulum, other types of impactors, and drop-test techniques. Offered Biannually (Winter).

Prerequisite: BME 6480 with a minimum grade of C and BME 7160 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$100

BME 7210 Tissue Biomechanics Cr. 4

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. Offered Irregularly.

Prerequisites: ([BME 5010 with a minimum grade of C] OR [BMS 6550 with a minimum grade of C]) AND ([BME 5020 with a minimum grade of C]) AND ([BME 5210 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ME 7195

BME 7300 Advanced Topics in Biomaterials and Tissue Biomechanics Cr. 4

Seminar format: advanced topics presented to the class; lectures by the instructor and by the participants based on literature reviews. Topics determined by student interest. Offered Biannually (Fall).

Prerequisite: BME 5210 with a minimum grade of C or BME 5370 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ME 7180, MSE 7180

BME 7370 Biomaterial Interfaces Cr. 4

Effects of topography and texture on the performance of biomaterials. Self-organization of biomembranes and supramolecular systems. Offered Winter.

Prerequisite: BME 5370 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

BME 7390 Tissue Engineering and Hybrid Systems Cr. 4

Seminar and project based approach to the design, development, analysis and application of organ and tissue replacement systems which incorporate processed materials and living cells. Offered Fall.

Prerequisites: ([BME 5370 with a minimum grade of C]) AND ([CHE 7100 with a minimum grade of C] OR [BME 5020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHE 7390

BME 7400 Medical Robotics and Systems Cr. 4

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. Offered Winter.

Prerequisite: ECE 5020 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ECE 7400

BME 7470 Smart Sensor Technology II: Characterization and Fabrication Cr. 4

Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Offered Winter.

Prerequisite: BME 6570 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$50

Equivalent: ECE 7570, PHY 7580

BME 7490 Biomedical Microsystems Cr. 4

Biomedical microsystems, with a focus on microfluidics and lab-on-a-chip technologies for medical diagnostics and biological research. Broad coverage of microscale physics; microfabrication methods; separation, purification, and other on-chip processes; biosensing. Offered Fall.

Prerequisite: ECE 5575 with a minimum grade of C or ECE 6570 with a minimum grade of C or BME 6470 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHE 7490, ECE 7590

BME 7670 Experimental Methods in Physiology Cr. 3

Basic principles and techniques for monitoring and reading EMGs, EEGs, ECGs, respiratory cycle, pulmonary function, galvanic skin response and polygraph, human acceleration response. Designing and carrying out a project involving human body acceleration measures and EMG responses; a second project will be designed and carried out using measurement techniques chosen by the students. Offered Spring/Summer.

Prerequisite: BME 5010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$40

BME 7710 Magnetic Resonance Imaging Cr. 4

Science and engineering of magnetic resonance imaging; relaxation times, signal concepts, Fourier imaging, sampling, filtering, and sequence design. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

BME 7720 MR Imaging of Neurovascular Disease Cr. 3

Recent advances in MRI technology applied to human brain vascular diseases. Methods include: 3D anatomical imaging, diffusion tensor imaging, functional brain imaging, perfusion imaging, and susceptibility weighted imaging. Offered Biannually (Fall).

Prerequisite: BME 5010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: PYC 7320

BME 7730 Medical Imaging Systems Cr. 3

Exposes students to the world of medical and biomedical imaging with emphasis on principles, approaches and applications of each modern imaging modality. Basic knowledge of MATLAB programming language is required. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ECE 7740

BME 7990 Directed Study Cr. 1-4

Independent projects on subjects of interest in the field of biomedical engineering. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

BME 7995 Special Topics in Biomedical Engineering II Cr. 1-4

Topics as announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

BME 7996 Research Cr. 1-4

Combined experimental and analytical study of a problem in the field of biomedical engineering. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

BME 8070 Seminar in Biomedical Engineering Cr. 1

Lectures on biomedical engineering and related fields by guest speakers, faculty, and students. M. S. and Ph.D. students are required to take one semester. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

BME 8080 Doctoral Seminar in Biomedical Engineering Cr. 1

Seminar and research discussion based on research projects of BME doctoral students. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

BME 8470 Smart Sensor Technology Seminar Cr. 1

Technological advances. Interaction of research experience in smart sensors and integrated devices. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ECE 8570

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

BME 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BME 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BME 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: BME 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

**BME 9995 Candidate Maintenance Status: Doctoral Dissertation
Research and Direction Cr. 0**
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: \$348.67
Repeatable for 0 Credits

BMS - BASIC MEDICAL SCIENCE

BMS 6010 Responsible Conduct in Biomedical Research Cr. 1

Nature, motivation and ethics in biomedical science situations liable to fraud, misconduct, conflicts of interest, and plagiarism in research, in peer and editorial review, and in authorship. Methods of safe laboratory practice and ethical human and animal use as research subjects in science. Offered for graduate credit only. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

BMS 6550 Medical Anatomy for Health Professionals Cr. 4

Basics of human anatomy for BMS and selected graduate students.

Offered Spring/Summer.

Course Material Fees: \$15

BMS 7100 Introduction to the Business of Biotechnology Cr. 3

Translation of biomedical innovation from bench to bedside, with focus on interplay between healthcare needs, regulatory agencies, and commercialization pathways. Offered Winter.

Equivalent: IBS 7110

BMS 7115 Special Topics in Biotechnology Commercialization Cr. 1

Designed to provide practical experience in defining the relationships between academic discovery science and business development, with a focus on best practices for presenting basic research-commercial products to external, interested individuals. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: IBS 7115

BMS 7880 Special Topics/Projects Cr. 1-4

Up to four credits in research, laboratory, discussion, or field work, in any combination; for students in Basic Medical Sciences or Medical Research program. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

BMS 7999 Essays in Basic Medical Science Cr. 3

Methodologies in library research and critical evaluation of current biomedical literature. Written summary and report on a specific topic in current biomedical literature. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

CB - CANCER BIOLOGY

CB 7130 Clinical Aspects of Cancer Biology Cr. 1

Cancer Biology Ph.D. students accompany clinicians during rounds in hospital and outpatient clinics, as well as attend clinical conferences and related sessions. Offered for S and U grades only. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

CB 7210 Fundamentals of Cancer Biology Cr. 3

The lectures are organized into three thematic blocks including cancer development and pathology, mechanisms of cancer development and progression, and principles of cancer prevention and therapy. Offered Winter.

Prerequisite: IBS 7015 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CB 7220 Molecular Biology of Cancer Development Cr. 3

Topics covered include: genetics and molecular basis of normal cell transformation into malignant cancer cells; and molecular mechanisms that are fundamental to the regulation of cell growth, development, and differentiation. The students are expected to present and participate in discussions of one or more key recent papers that are relevant to the lectures. Students with a strong background in biology/molecular biology are encouraged to apply. Offered Biannually.

Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PHC 7220

CB 7240 Principles of Cancer Therapy Cr. 2

Continuation of the principles of cancer therapy taught in CB 7210. Concepts relating to tumor biology and the biochemistry and pharmacology of both classic and targeted agents are covered. Offered Biannually (Winter).

Prerequisite: IBS 7115 with a minimum grade of C and CB 7210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PHC 7240

CB 7300 Special Topics in Cancer Biology Cr. 1-3

Designed to provide students exposure to emerging themes and technologies in the cancer field as well as to cancer related topics that are not covered in detail in other courses. Offered Every Term.

Prerequisites: ([CB 7210 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

CB 7410 Cancer Immunology and Immunotherapy Cr. 3

Cancer immunotherapy based on the molecular mechanisms of T cell development, tolerance and activation. Topics include T cell receptor and co-stimulatory signal-mediated regulation of T cell activation, transcriptional regulation of T cell differentiation, and T cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion. Offered Biannually (Winter).

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: IM 7410

CB 7430 Cancer Epidemiology Cr. 2

Introduction to the principal concepts and methods used in cancer epidemiology. Important evaluations of cancer burden in the United States and worldwide, as well as the major causes of human cancer. Students will be required to review and provide critical appraisal of selected literature in innovative areas of cancer epidemiologic research. Offered Biannually.

Restriction(s): Enrollment limited to students in the Master in Public Health or PhD in Medicine programs; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master in Public Health degrees.

CB 7460 Mechanisms of Neoplasia: Alterations to Cellular Signaling Cr. 3

Course covers cellular regulatory signal-transduction networks that are often activated inappropriately in malignant cells. Focus on the major principles of cancer cell biology including survival, apoptosis, adhesion, and cell cycle deregulation. Offered Biannually (Fall).

Prerequisite: CB 7210 with a minimum grade of C and IBS 7115 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

CB 7600 Applied Cancer Biostatistics Cr. 2

Concepts and applications of statistical methods and data analysis as related to cancer research. Students will have hands-on experience in statistical thinking, analyzing, and interpreting through the interactive teaching modules. The course provides an opportunity for students to understand statistical analyses in the medical literature, as well as provide guidance for planning and analyzing their own research. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

CB 7700 Recent Developments in Cancer Biology Cr. 1

This course is Journal club format designed to develop proficiency in critically evaluating original scientific literature, to broaden knowledge of current cancer research, and to provide insight into different research strategies. Each student is expected to participate in class discussions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Repeatable for 6 Credits

CB 7710 Individual Studies in Cancer Biology Cr. 1-2

Cancer Biology graduate students pursue experimental research under the guidance of selected faculty. This is the research rotation through which students select their Ph.D. dissertation mentor. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Repeatable for 3 Credits

CB 7800 Rigor and Reproducibility in Cancer Biology Cr. 1

Provide students with the ability to understand and learn how to conduct rigorous and reproducible cancer research. This includes experimental design, data interpretation, publishing, animal and human research, and other topics relevant for the conduct of responsible research in Cancer Biology. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

CB 7890 Seminar in Cancer Biology Cr. 1

This course provides second year and above students with the opportunity to present their dissertation work to their peers. This class not only provides students with the opportunity to develop their oral presenting skills, but also gives the students a chance to critically evaluate their peers. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Repeatable for 6 Credits

CB 7990 Research Technologies in Cancer Biology Cr. 1

Course designed to expose students to core research technologies at Karmanos Cancer Institute and Wayne State University to enable their inclusion in the dissertation project. The animal, genomics, pharmacology, proteomics, biostatistics, and microscopy, imaging and cytometry research cores will be presented, including their purpose and functions and instrumentation (hands-on) whenever appropriate. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Repeatable for 12 Credits

CB 7996 Research Cr. 1-15

Directed study and pre-dissertation research with faculty in the program. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

CB 7999 Master's Essay Cr. 1-4

Research in the research literature, and writing of an essay on a topic area in contemporary cancer biology. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Repeatable for 4 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Repeatable for 8 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CB 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CB 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CB 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

CB 9999 Doct Diss Res&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

CE - CIVIL ENGINEERING

CE 2410 Statics Cr. 3

Basic concepts and principles of statics with applications to Newton's Laws of Motion to engineering problems. Forces, moments, equilibrium, couples, free body diagrams, trusses, frames, fluid statics, friction, area and mass moment of inertia. Offered Every Term.

Equivalent: ME 2410

CE 2420 Elementary Mechanics of Materials Cr. 3

Elastic relationships between external forces acting on deformable bodies and the associated stresses and deformations; structural members subjected to axial load, torsion, and bending; column buckling; combined stresses; repeated loads; unsymmetrical bending. Offered Every Term.

Prerequisites: ([ME 2410 with a minimum grade of C-] OR [CE 2410 with a minimum grade of C-]) AND (May be taken concurrently: [BE 1300 with a minimum grade of C-] OR [BE 1310 with a minimum grade of C-])

Equivalent: ME 2420

CE 3010 Introduction to CAD in Civil Engineering Cr. 3

Principles of computer graphics and utilization of computers in the design process. Civil engineering applications of AutoCAD. Offered Biannually.

Prerequisite: MAT 2020 with a minimum grade of C- and BE 1200 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 3070 Surveying Cr. 3

Principles of plane surveying; measurement of horizontal and vertical distance, directions and angles, traverses, areas. Offered Irregularly.

Prerequisite: PHY 2185 with a minimum grade of C- or PHY 2180 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$20

CE 3250 Applied Fluid Mechanics Cr. 4

Application of theoretical fluid mechanics to problems of special interest to civil engineers including pipe flow, open channel flow, forces on submerged bodies, and flow measurement. Laboratory component of course provides experimental verification of theories and computer visualization. Offered Fall.

Prerequisite: MAT 2030 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$15

CE 3450 Civil Engineering Materials Cr. 4

Structure, composition and engineering properties of aggregates, cement concrete, asphalt, asphalt concrete, and other civil engineering materials. Mix design, testing, and quality control. Material Fee as indicated in the Schedule of Classes. Offered Winter.

Prerequisite: BE 2100 with a minimum grade of C- and CE 2420 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$35

CE 4210 Introduction to Environmental Engineering Cr. 3

Introduction to environmental laws; reaction kinetics; principles of mass balances; plug-flow and completely stirred tank reactors; Stoke's Law; Streeter-Phelps oxygen sag curves; water chemistry; hydrologic cycle; population growth models; elements of soil waste management and air pollution. Offered Winter.

Prerequisite: CE 3250 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CE 4240 Environmental Engineering Design Cr. 3

Design of engineered environmental systems, including drinking water distribution systems, sanitary and storm water sewer systems, and municipal waste disposal sites. Offered Fall.

Prerequisite: CE 4210 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 4400 Structural Analysis Cr. 4

Basic concepts of structural analysis; reactions, forces, and stresses in trusses and beams; influence lines; elastic deflections; introduction to indeterminate structures; computer applications. Offered Fall.

Prerequisites: ([CE 2410 with a minimum grade of C-]) AND ([CE 2420 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 4410 Steel Design Cr. 3

First course in design of steel structures. Introduction to the concepts, requirements, and fundamental skills for steel building structural design. Offered Winter.

Prerequisites: ([CE 4400 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 4420 Reinforced Concrete Design Cr. 3

First course in design of concrete structures. Design and analysis of reinforced concrete beams, columns, and other structural members; ACI code requirements, cost concerns, safety, industry practices; introduction to prestressed concrete. Offered Fall.

Prerequisite: CE 4400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 4510 Introduction to Geotechnical Engineering Cr. 4

Composition, engineering properties and behavior of soils. Principles of soil mechanics. Experimental determination of engineering classification, strength and deformation characteristics of natural and artificially placed soils. Offered Fall.

Prerequisite: CE 3450 with a minimum grade of C- and CE 3250 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$30

CE 4600 Transportation Engineering Cr. 3

Transportation functions; transportation systems including highways, railways and airways. Techniques of transportation systems analysis including optimization, network flows and queueing theory. Offered Winter.

Prerequisite: BE 3220 with a minimum grade of C- or BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CE 4640 Transportation Design Cr. 3

A description of design elements of various system components of transportation; including the driver, vehicle and roadway. Traffic flow design elements including volume, density and speed; intersection design elements including delay, capacity and accident countermeasures and terminal design elements including inflow, outflow and circulation. Offered Fall.

Prerequisite: CE 4600 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 4850 Engineering Economy Cr. 3

Economic analysis of engineering projects. Selection of appropriate interest rates and methods of analysis, analysis and evaluation of alternatives, depreciation and tax considerations, and use of accounting data in comparison of investment alternatives. Offered Fall.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

Equivalent: IE 4850

CE 4990 Directed Study Cr. 1-4

Supervised study and instruction in civil engineering. Written report required. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Repeatable for 6 Credits

CE 4995 Senior Design Project Cr. 3

Capstone design experience through civil engineering projects. Satisfies General Education Writing Intensive requirement. Offered Winter.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CE 5220 Environmental Chemistry Cr. 3

Fundamentals of aqueous chemistry for environmental engineers and scientists. Basic chemistry, equilibria, kinetics and thermodynamics; includes acid/base reactions, precipitation/dissolution, oxidation/reduction reactions and partitioning. Offered Biannually.

Course Material Fees: \$5

CE 5230 Water Supply and Wastewater Engineering Cr. 4

Analysis and design of water supply and wastewater treatment systems; water distribution systems; treatment of municipal water supplies, including sedimentation, softening, filtration and disinfection; design of sanitary and storm sewers; primary, secondary and tertiary treatment plant design; sludge handling. Offered Yearly.

Prerequisite: CE 4210 with a minimum grade of C-

Course Material Fees: \$5

CE 5350 Introduction to Structural Dynamics Cr. 4

Dynamic properties of structures, Modeling of dynamic loads. Structural response to dynamic loading. Structural design requirements for dynamic loads. Fundamental techniques of dynamic system analysis. Offered Winter.

Prerequisite: ME 3400 with a minimum grade of C- and CE 4400 with a minimum grade of C-

CE 5370 Finite Element Analysis Fundamentals Cr. 4

Matrix structural analysis, discretization of continuous structural systems, stress analysis. Commercial finite element software preprocessing for developing finite element models; post-processing for evaluating analysis results. Offered Fall.

Prerequisites: ((CE 4400 with a minimum grade of C-))

CE 5410 Energy, Emissions, Environment (E3) Design Cr. 4

Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources including US EPA, DOE, EIA, and the latest in emerging research. Offered Fall.

Equivalent: AET 5410, STE 5410

CE 5510 Geotechnical Engineering I Cr. 4

Site investigation, site improvement, bearing capacity and settlement of shallow foundations, axial capacity and lateral deflection of deep foundations, design of conventional earth retaining walls, and basics of slope stability analyses. Offered Fall.

Prerequisites: ((CE 4510 with a minimum grade of C-))

CE 5520 Geotechnical Engineering II Cr. 4

Lateral earth pressure theories, design of conventional earth-retaining walls and of reinforced earth walls, anchored sheet-pile walls and cofferdams, fundamentals of soft-ground tunneling, two- and three-dimensional slope stability analyses, and static design of earth dams. Offered Biannually.

Prerequisites: ((CE 4510 with a minimum grade of C-))

CE 5610 Highway Design Cr. 3

Application of standards, theory and practice in design of streets and highways. Design of streets and highways including cross section elements, shoulder and roadside features. Pavement design and rehabilitation work. Offered Yearly.

Prerequisites: ((CE 4640 with a minimum grade of C-))

CE 5810 Legal Aspects of Engineering and Construction Cr. 3

Business of contracting, construction, liabilities of owner, architect, engineer and contractor. Rights in land, boundaries and foundations. Case studies. Offered Fall.

Course Material Fees: \$5

CE 5830 Business of Engineering Cr. 3

Defining the engineering company, creating the organization, support services, business development, project management, scheduling, budgeting and profitability, operations, financial management and risk management. Offered Every Term.

Prerequisites: ((CE 4850 with a minimum grade of C-))

CE 5995 Special Topics in Civil Engineering I Cr. 4

Topics to be announced in Schedule of Classes . Offered Irregularly.

Repeatable for 16 Credits

CE 6010 Introduction to Construction Engineering and Management Cr. 3

An introduction to the organization and management of construction projects. Project lifecycle including engineering, procurement and construction phases. Fundamentals of cost estimating, scheduling, quality, safety and risk management, legal and ethical aspects, construction productivity and lean construction, building codes, and building information modeling. Offered Winter.

Prerequisites: ((CE 4850 with a minimum grade of C-))

Course Material Fees: \$5

CE 6050 Construction Cost Estimating Cr. 3

Estimating construction costs of engineering projects including materials, man-hours, equipment and overhead. Emphasis on construction equipment, including productivity and planning. Bidding and bid documents. Offered Biannually.

Prerequisites: ((CE 4850 with a minimum grade of C-))

CE 6060 Construction Techniques and Methods Cr. 3

Construction techniques and methods for excavation, foundations, concrete, wood, steel, masonry, heavy construction, wastewater treatment plants, highways and roads, high rise structures, bridges, and tunneling projects. Offered Biannually.

Prerequisites: ((CE 4450 with a minimum grade of C-))

CE 6130 Open Channel Hydraulics Cr. 3

Theoretical development of equations governing flow in open channels. Application to real-world engineering problems involving water surface profiles, flood studies, and river. Offered Winter.

Prerequisites: ((CE 3250 with a minimum grade of C-))

CE 6150 Hydrologic Analysis and Design Cr. 4

Principles of surface water hydrology and their application for evaluation of floods and the design of surface runoff control system; watershed characteristics; design storms and SCS methods; unit hydrographs; hydrologic models; application of computer methods. Offered Biannually.

Prerequisite: CE 6130

CE 6190 Groundwater Cr. 3

Historical background, aquifers and aquitards, saturated and unsaturated flow, sources of ground water contamination, artificial recharge of ground water, development of ground water basins and efficient use of ground water resources. Offered Yearly.

Prerequisites: ((CE 3250 with a minimum grade of C-))

CE 6270 Sustainability Assessment and Management Cr. 3

Sustainability assessment and management for engineering design and development; theoretical, regulatory, and practical implications; Detroit and global applications. Offered Yearly.

Prerequisites: ((CE 4210 with a minimum grade of C-))

Equivalent: STE 6270

CE 6330 Advanced Structural Analysis Cr. 4

Effect of axial loads on stiffness of flexural members. Buckling of trusses and rigid frames. Matrix method of analysis. Complex structures. Computer applications. Offered Fall.

Prerequisites: ((CE 4410 with a minimum grade of C-))

CE 6340 Bridge Design and Evaluation Cr. 3

Concepts, procedures, methods of design and condition evaluation for modern highway bridges, according to current specifications. Entire system is covered, including superstructure, substructure, and their connections. Offered Biannually.

Prerequisites: ((CE 4420 with a minimum grade of C-))

CE 6370 Advanced Reinforced Concrete Design Cr. 4

Theory and design of two-way slabs, footings, retaining walls, shear walls, and composite beams using ultimate strength design. Precast and prestressed concrete fundamentals. Offered Winter.

Prerequisites: ((CE 4420 with a minimum grade of C-))

CE 6410 Advanced Steel Design Cr. 4

Advanced topics of structural steel design: thin walled rolled and built-up members, beam columns, lateral torsional buckling, steel fatigue design, connection details. Steel design project. Offered Winter.

Prerequisites: ((CE 4420 with a minimum grade of C-))

CE 6580 Geoenvironmental Engineering I Cr. 4

Properties and test methods for natural and synthetic materials used in landfills; analysis of chemical interactions, flow mechanisms, stability and settlement for the design of landfill components. Offered Yearly.

Prerequisites: ((CE 4510 with a minimum grade of C-))

CE 6660 Pavement Management Systems: Principles and Practices Cr. 4

Principles and practices of pavement management at the network and project level: serviceability, pavement design models, economic analysis, and priority programming. Offered Yearly.

Prerequisites: ((CE 4640 with a minimum grade of C-))

CE 6880 Building Information Modeling (BIM) Cr. 3

Lectures, hands-on demonstrations and lab exercises to familiarize students with concepts and tools in Revit Architecture 2010 software; how software integrates 3D and 2D modeling. Offered Biannually.

Prerequisites: ((CE 3010 with a minimum grade of C-))

CE 6910 Pharmaceutical Waste: Environmental Impact and Management Cr. 2-3

Course designed for advanced professional and graduate students with sufficient chemistry and/or biological sciences background who are interested in the environmental impact, management, and regulation of waste pharmaceuticals as emerging issues. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PSC 6910

CE 6991 Internship in Industry Cr. 1-4

Written report describing internship experience. Offered Every Term.

CE 7020 Construction Safety Cr. 3

Safety problems in the construction industry and their technical and managerial solutions, construction accident and failure analysis and control. Safety program design and implementation with TQM integration. Offered Yearly.

Prerequisite: CE 6010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7070 Risk and Reliability in Civil Engineering Cr. 3

Uncertainty in civil engineering practice (e.g., loads, traffic, water demand, construction quality). Reliability theory based on probabilistic and statistical methods. Reliability-based engineering design and decision making. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CE 7080 Civil Engineering Research Methods Cr. 3

Methods of data collecting and statistical analysis in context of civil engineering. Applications of advanced statistical analysis techniques, theory, discussion of methodological limitations. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

CE 7190 Groundwater Modeling Cr. 4

Analytical and numerical models of groundwater hydraulics and contaminant transport. Application of theoretical material developed in CE 6190. Case studies of model applications to real field problems. Offered Yearly.

Prerequisite: CE 6190 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7220 Industrial Waste Treatment Cr. 4

A study of the sources of specific industrial waste waters and their treatability by physical, chemical and biological processes, including the industries' obligation in the prevention of stream pollution. Problems and solutions involved in combined treatment of industrial and domestic waste waters. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

CE 7260 Surface Water-Quality Modeling and Management Cr. 4

Principles and mechanisms governing the rate and transport of conventional and toxic pollutants in natural water; mathematical modeling of water quality in surface water systems; model applications for managing waste loads in lakes and rivers. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

CE 7280 Applied Environmental Microbiology Cr. 3

Provides knowledge of microbiology, roles and relations of microorganisms to the environment. Topics include practical applications of environmental microbiology to environmental issues including water treatment, biodegradation and bioremediation of environmental pollutants, production of alternative fuels, and emerging environmental concern. Special consideration will be given to water treatment and microbe-mediated cycling of organic materials (i.e. pollutants) in a variety of natural and engineered environment. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

CE 7300 Advanced Structural Mechanics Cr. 3

Theory of bending and torsion of bars, beams on elastic foundations. Introduction to theory of thin plates. Linear elastic fracture mechanics, application to brittle solids. Offered Fall.

Prerequisite: CE 6330 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7460 Advanced Composite Materials for Civil Infrastructure Cr. 3

Infrastructure problems. Advanced fiber reinforced plastics, including applications in primary/secondary and marine structures, and in rehabilitation. High performance fiber reinforced concrete. Controlled composite properties via composite design. Review of composite analysis and failure criteria based on micromechanics and laminate theory. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CE 7500 Engineering Properties of Soils Cr. 4

Overview of experimental methods in geotechnical engineering, instrumentation and data acquisition methods, statistical analysis of test data, tests and theories for settlement predictions, tests and theories for hydraulic conductivity determination, tests and theories for static and cyclic stress-strain-volume change behavior of soils. Offered Biannually.

Prerequisite: CE 5510 with a minimum grade of C and CE 5520 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7530 Advanced Soil Mechanics Cr. 4

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$5

CE 7550 Geosynthetics Engineering Cr. 4

Fundamental principles for testing, design, and construction of geosynthetics in civil engineering applications. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CE 7580 Environmental Remediation Cr. 4

Site assessment; soil and groundwater investigation for remediation; application of remediation technologies; legislation related to remediation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

CE 7600 Highway Safety and Risk Management Cr. 4

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

CE 7620 Traffic Engineering Control and Operation Cr. 4

Traffic flow theories, macroscopic and microscopic models of traffic control, statistical analysis; design and application of intelligent transportation systems on traffic flow characteristics; evaluation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

CE 7630 Urban Transportation Planning Cr. 4

Planning and analysis of urban transportation, travel demand models, land use planning and public transportation; household and origin-destination survey techniques; and demand elasticities multi-criteria evaluation. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$5

CE 7640 Economic Analysis in Transportation Systems Cr. 4

Application of engineering economy and price theory in optimization of transportation systems; analysis of congestion costs, externalities, primary and secondary costs and benefits; evaluation of alternatives and completed projects and programs. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

CE 7670 Advanced Traffic Signal Systems Cr. 3

Analysis and design of traffic signal systems. Hardware, communication and detection systems associated with microcomputer-based signal systems. Coordinated signal systems. Offered Biannually.

Prerequisite: CE 7620 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7830 Construction Planning and Scheduling Cr. 3

Planning and scheduling of construction projects, project networks and critical path methods, resource leveling, use of Primavera software. Offered Yearly.

Prerequisite: CE 6010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7840 Facilities Management Cr. 3

Buildings and grounds operations and maintenance, planning design and construction, facilities economics and financing, real estate administration, environmental health and safety, health issues. Offered Winter.

Prerequisite: CE 6010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7850 Construction Contract Administration Cr. 3

Project documentation; project setup and contract directory development; adding new contracts; purchase orders; recording materials deliveries; producing daily reports; preparing minutes of meetings; log submittals and handling correspondence; tracking contracts and costs, setup and preparing progress payment requisitions, managing claims and change orders. Offered Biannually.

Prerequisite: CE 6010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7860 Construction Accounting and Financial Management Cr. 3

Construction financial management, construction accounting systems, analysis of financial statements, monitoring and controlling construction costs, managing overhead costs, markup, profit center analysis, cash flows for construction projects, financing, making financial decisions. Offered Biannually.

Prerequisite: CE 6010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7890 Integrated Construction Project Management Cr. 3

Construction project management framework, construction project integration, project scope management, time management, cost management, quality management, procurement management, risk management, communication management. Offered Biannually.

Prerequisite: CE 7830 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CE 7990 Directed Study Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

CE 7995 Special Topics in Civil Engineering II Cr. 4

A consideration of special subject matter in civil engineering. Topics to be announced in Schedule of Classes . Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

CE 7996 Research Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

CE 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CE 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CE 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CE 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

CED - COUNSELOR EDUCATION

CED 5030 Role of the Counselor in Substance Abuse Cr. 2

An overview of counseling principles, procedures, and methods unique to substance abuse settings. Use of specific counseling strategies and treatment models with substance abusers. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CED 5090 Family Education and Counseling: Substance Abusers Cr. 3

Analysis of the structure and functioning of family systems in which there is substance abuse; effective therapeutic strategies in working with chemically-abusive families. Offered Irregularly.

Prerequisites: [(CED 5030)]

CED 6070 Introduction to Counseling Cr. 3

Overview of counseling profession, including: helping process, theories of counseling and consulting, training, credentialing, ethical and legal standards, professional organizations, history and trends of basic research. Offered Every Term.

CED 6080 Theories of Counseling Cr. 3

Major theories of counseling: client-centered, rational-emotive, Gestalt, Adlerian, reality, psychoanalytic, behavioral, cognitive. Ethical, legal, multicultural factors in conceptualization and delivery of counseling services in school, rehabilitation and community agency settings. Offered Every Term.

CED 6700 The Role of the Teacher in Guidance Cr. 2

Introduction to guidance principles, techniques and roles, with stress on classroom application. Experiential laboratory sessions required to sensitize educators to the basic ideas and skills involved in being a helper. Primarily for school personnel other than counselors. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

CED 6710 Professional Seminar: Contemporary Issues Cr. 1-6

Principles, procedures and methods specific to a critical contemporary issue, such as: child abuse, sexual abuse, bereavement, stress management, infectious diseases, self-esteem, self-efficacy, conflict management, and trauma. Offered Every Term.

Repeatable for 6 Credits

CED 6720 Workshop in Counseling Cr. 2-4

For counselors, teachers, and pupil personnel workers. Consideration of counseling issues in school, agency and community settings. Counseling, consultation, and coordination dimensions of counseling in substance abuse, family groups, and human sexuality issues. Offered Every Term.

Repeatable for 18 Credits

CED 7000 Introduction to Group Work Cr. 2

Seminar in group counseling theories; basic elements of group process: stages of group development including group leadership styles, group dynamics, guidelines for multicultural and rehabilitation practice, ethical and professional issues in group practice, use of skills and techniques applicable to various counseling sessions. Offered Every Term.

Prerequisites: [(CED 6070 with a minimum grade of C) OR [CED 6080 with a minimum grade of C)]

Corequisite: CED 7010

Restriction(s): Enrollment is limited to Graduate level students.

CED 7010 Group Counseling Participation Cr. 2

Group counseling sessions to experience counseling from the client's perspective and to become familiar with procedures and methods of group counseling in community agency, school, and rehabilitation settings. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

CED 7020 Counseling Internship Cr. 1-12

Supervised field experience (100 clock hours per credit hour enrolled) designed to give students orientation to the responsibilities of a counselor at a cooperating agency or institution. Students attend on-campus seminars to discuss professional counseling and supervision issues. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AED 7890, RCI 7460

Repeatable for 12 Credits

CED 7030 Counseling and Consulting Services in Community Agencies Cr. 3

Consultation theory and processes in agencies and post-secondary educational institutions. Roles and functions of counselors in program and proposal development; conflict management; organization; administration; and evaluation of services; public relations; knowledge of community referral resources and referral process. Offered Yearly.

Prerequisite: CED 6070 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CED 7040 Techniques of Counseling Cr. 4

Techniques, ethics and process of counseling. Facilitative relationships, case conceptualization, goal setting, intervention, and outcome evaluation. Development of counseling skills to facilitate growth or change with respect to psychological, vocational and social concerns through self-advocacy, cognitive, affective, and behavioral interventions. Analysis and practice using simulated cognitive experiences. Offered Every Term.

Prerequisite: CED 6070 with a minimum grade of C or CED 6080 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: RCI 7110

CED 7055 School Counselor: Postsecondary Planning and College Counseling Cr. 2

Role of the School Counselor in relation to postsecondary planning and college counseling. The Eight Components of College and Career Readiness approach will be used to educate school counselors to prepare and inspire students for college success and opportunity. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in School Counseling; enrollment is limited to Graduate level students.

CED 7070 School Guidance, Counseling, and Consulting Cr. 4

Principles and practices of counseling, guidance, and consulting in the K-12 school setting. Focus on individual and group approaches that facilitate student development and adjustment; staff, parental, and community resources and referral procedures; program development, operation, and evaluation. Offered Winter.

Prerequisite: CED 6070 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CED 7080 Career Development and Counseling Cr. 3

Career development theories, career exploration and career preparation methods including: information, leisure, decision making, career-related assessment, use of non-traditional resources and computer-assisted guidance systems, use of occupational information and labor market surveys in career counseling, work-adjustment training, and strategies/skills for adapting vocational and educational resources for use in rehabilitation, school, business and community agency settings. Offered Every Term.

Prerequisite: CED 6070 with a minimum grade of C and (RCI 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$20

CED 7090 Advanced School Guidance, Counseling and Consulting Cr. 3
Advanced principles and practices of counseling and consultation in school settings. The focus is on the holistic approach to enhance and facilitate student growth, development, and self-awareness as it relates to the demands of the School Counselor. Offered Yearly.
Prerequisites: ([CED 7070 with a minimum grade of C])
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in School Counseling; enrollment is limited to Graduate level students.

CED 7120 Assessment for Counselors and Rehabilitation Cr. 3
Overview of psychological, educational and vocational assessment techniques, including specific assessment applications such as clinical assessment, communicating assessment results, assessment with diverse populations, and ethical issues. Offered Winter.
Prerequisites: ([RCI 7410 with a minimum grade of C, RCI 7420 with a minimum grade of C, and RCI 7480 with a minimum grade of C] OR [CED 6070 with a minimum grade of C and CED 6080 with a minimum grade of C])
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: \$52
Equivalent: RCI 7120

CED 7150 Counseling Practicum Cr. 4
Course includes client contact and supervision seminar. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: \$25
Equivalent: AED 7380, RCI 7430

CED 7730 Cultural and Diversity Issues in Mental Health Treatment Research Cr. 3
Cognitive and experiential study of social and psychological variables that influence the cross-cultural counseling relationship. Emphasis on social identities of race, ethnicity, gender, age, ability, and sexual orientation. Offered Fall.
Prerequisite: CED 6080 with a minimum grade of C and RCI 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 8000 Seminar in Group Counseling Cr. 3
Students counsel groups which they have established. Tape and/or process recordings of counseling sessions analyzed to develop a theory and method of group counseling, group leadership, and techniques in the counseling of individuals in groups. Offered Biannually.
Prerequisite: CED 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 8020 Advanced Practicum Cr. 2-8
Supervised practice counseling in the counseling laboratory. Counseling competence evaluated. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CED 8030 Advanced Consultation Theory and Methods Cr. 3
Advanced consultation theory and methods in agencies and educational institutions. Roles and functions of counselor educators and supervisors in program and proposal development; organization, administration, and evaluation of services; conflict management; third party intervention; legal and ethical issues; public relations. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.

CED 8040 Advanced Counseling Theory and Method Cr. 3
Theories of personality and learning applied to case diagnosis and projected remediation. Offered Biannually.
Prerequisite: CED 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 8080 Advanced Career Development and Counseling Cr. 2-4
For advanced students in guidance and counseling and related areas. Current trends and changes in career guidance and career education; their implications for guidance and counseling programs. Consideration of related topics. Offered Biannually.
Prerequisite: CED 7080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

CED 9020 Internship in Counseling/Counselor Education Cr. 1-6
Purposes, objectives, materials, techniques and practices in counselor education programs. Supervised experience in advanced counseling and in various phases of the counselor education program. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Counseling; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education, Doctor of Philosophy or Education Specialist Cert degrees.
Repeatable for 24 Credits

CED 9120 Seminar and Internship Supervising Counselors Cr. 3
Theory and practice of supervision. Students supervise practicum counselors under staff guidance. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Counseling; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education, Doctor of Philosophy or Education Specialist Cert degrees.

CED 9520 Advanced Research on Disability and Human Behavior Cr. 3
Comprehensive knowledge in disability studies to inform research and teaching and to develop scholarly skills. Offered Biannually.
Restriction(s): Enrollment is limited to students with a major in Counseling; enrollment limited to students in the PhD in Education program; enrollment is limited to Graduate level students; enrollment limited to students in the College of Education.

CHE - CHEMICAL ENGINEERING

CHE 2800 Material and Energy Balances Cr. 4

Material balances, stoichiometry and simultaneous mass energy balances. Offered Winter.

Prerequisites: ([PHY 2170 with a minimum grade of C-] OR [PHY 2175 with a minimum grade of C-]) AND ([MAT 2020 with a minimum grade of C-]) AND ([CHM 1240 with a minimum grade of C-])

Course Material Fees: \$10

CHE 3100 Transport Phenomena I Cr. 3

Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of momentum and mechanical energy balances in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of fluids (i.e., momentum transport) and the interchange among forms of mechanical energy as fluids flow. Offered Winter.

Prerequisite: CHE 2800 with a minimum grade of C- and BE 1500 with a minimum grade of C- and MAT 2150 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment limited to students in the College of Engineering.

CHE 3200 Fluid Flow and Heat Transfer Cr. 4

Transient and steady state transport of momentum and heat in engineering systems. Analytical and empirical methods. Practical aspects of transport of materials and heat. Piping and pumping systems, metering, heat exchange theory, equipment costs. Offered Fall.

Prerequisites: ([BE 1500 with a minimum grade of C-]) AND ([MAT 2150 with a minimum grade of C-]) AND ([CHE 2800 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CHE 3220 Measurements Laboratory Cr. 2

Laboratory course in the principles and practice of measuring chemical, physical and thermodynamic properties of importance to chemical engineering problems. Technical reports. Offered Winter.

Prerequisites: ([BE 2100 with a minimum grade of C-]) AND ([CHE 3200 with a minimum grade of C-]) AND ([ENG 3050 with a minimum grade of C-]) AND ([BE 1500 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

CHE 3300 Thermodynamics: Chemical Equilibria Cr. 4

Qualitative and quantitative treatment of homogeneous and heterogeneous phase and chemical equilibria. Use of chemical activities and activity coefficients relating ideal to actual systems. Use of reference states and excess properties of the prediction of equilibrium diagrams and the determination of feasibility of chemical reactions. Offered Fall.

Prerequisites: ([BE 1500 with a minimum grade of C-]) AND ([CHE 2800 with a minimum grade of C-]) AND ([MAT 2150 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CHE 3400 Kinetics and Reactor Design Cr. 4

Quantitative treatment of complex homogeneous and heterogeneous chemical reactions and the design of batch, stirred and flow reactor systems. Offered Winter.

Prerequisites: ([BE 1500 with a minimum grade of C-]) AND ([CHE 3300 with a minimum grade of C-]) AND ([MAT 2150 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CHE 3510 Co-op Experience Cr. 1-3

Presentation of oral and written report to peer group describing Co-op experience. Attendance required at the CHE and MSE seminar series for the semester. Offered Every Term.

Prerequisites: ([CHE 4260 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Repeatable for 3 Credits

CHE 3600 Transport Phenomena II Cr. 3

Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of heat and mass of chemical species in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of thermal energy (i.e., heat transfer) and movement of a chemical species under a concentration gradient (i.e. mass transfer and diffusion). Offered Fall.

Prerequisite: BE 1500 with a minimum grade of C- and CHE 2800 with a minimum grade of C- and CHE 3100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CHE 3800 Separation Processes Cr. 3

Quantitative treatment of separation processes in which there is simultaneous heat and mass transfer. Offered Winter.

Prerequisites: ([BE 1500 with a minimum grade of C-]) AND ([CHE 3200 with a minimum grade of C-]) AND ([CHE 3300 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CHE 3820 Chemical Engineering Laboratory Cr. 2

Experimental study of chemical equilibria, reaction kinetics and rate processes. Laboratory case studies. Offered Fall.

Prerequisites: ([CHE 3220 with a minimum grade of C-]) AND ([CHE 3400 with a minimum grade of C-]) AND ([CHE 3800 with a minimum grade of C-]) AND ([BE 1500 with a minimum grade of C-]) AND ([ENG 3060 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

CHE 4200 Product and Process Design Cr. 3

The overall design of chemical products, systems, and processes. Economic analysis, computational design calculations, and optimization of design based on factors such as economics, environmental protection and waste minimization, and safety. Offered Fall.

Prerequisite: CHE 3800 with a minimum grade of C- and CHE 3400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CHE 4260 Chemical Engineering Seminar I Cr. 0

Offered Fall, Winter.

Prerequisite: CHE 3200 with a minimum grade of C- and CHE 3300 with a minimum grade of C- and CHE 3220 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CHE 4600 Process Dynamics and Simulation Cr. 3

Application of system dynamics and mathematical modeling to design and analysis of chemical processing systems. Offered Fall.

Prerequisite: CHE 3400 with a minimum grade of C- and CHE 3800 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

CHE 4800 Chemical Process Integration Cr. 3

Application of engineering and science background to the design of chemical processes. Comprehensive problems deal with sources of data, design principles and optimization techniques. Offered Fall.

Prerequisite: CHE 4200 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CHE 4860 Chemical Engineering Seminar II Cr. 1

Offered Fall, Winter.

Prerequisite: CHE 4260 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CHE 4990 Directed Study Cr. 1-9

Students select a field of chemical engineering for advanced study and instruction. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Repeatable for 9 Credits

CHE 5050 Statistics and Design of Experiments Cr. 3

Application of modern statistical experimental design methods to improve effectiveness and success in experimental projects, in chemical industry manufacturing, and research and design. Offered Winter.

Prerequisites: ([BE 2100 with a minimum grade of C-]) AND ([BE 1500 with a minimum grade of C-]) AND ([CHE 3200 with a minimum grade of C-]) AND ([CHE 3300 with a minimum grade of C-])

CHE 5100 Quantitative Physiology Cr. 4

Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models where feasible. Offered Winter.

Prerequisites: ([BME 5005 with a minimum grade of C] OR [BME 2010 with a minimum grade of C])

Equivalent: BME 5010, ECE 5100, IE 5100, ME 5100

CHE 5110 Fundamental Fuel Cell Systems Cr. 4

Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: AET 5110, EVE 5130, ME 5110

CHE 5120 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4

Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5310, EVE 5120, ME 5215

CHE 5350 Polymer Science Cr. 3

Fundamental relationships between chemical structure and physical properties of high polymers. Basic structures, states and transitions of polymers. Polymerization reactions and processes. Molecular weight, viscous flow and mechanical properties of polymers. Offered Fall.

Prerequisites: (May be taken concurrently: [MAT 2150 with a minimum grade of C-])

Course Material Fees: \$10

Equivalent: MSE 5350

CHE 5360 Polymer Processing Cr. 3

A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendaring, extrusion, coating and injection molding. Offered Winter.

Prerequisites: ([CHE 3200 with a minimum grade of C-])

Course Material Fees: \$10

Equivalent: MSE 5360

CHE 5450 Nanocarrier-based Drug Delivery Systems Cr. 3

Fundamental concepts in nanotechnology as it relates to drug delivery, and some of the applications and breakthroughs in this area as it applies to medicine. Offered Fall.

Prerequisites: ([CHE 5420 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Undergrad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

CHE 5620 Energy Economics and Policy Cr. 4

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. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

Equivalent: EVE 5620

CHE 5700 Process and Materials Safety for Alternative Energy Technology Cr. 4

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. Offered Winter.

Equivalent: AET 5700

CHE 5811 Research Preparation II Cr. 1

Preparation for Senior Research Project, CHE 6810. Offered Every Term.

Prerequisites: ([CHE 3200 with a minimum grade of C- and CHE 3300 with a minimum grade of C-] OR [CHE 5809 with a minimum grade of C-])

CHE 5995 Special Topics in Chemical Engineering I Cr. 1-4

A consideration of special subject matter in chemical engineering. Topics to be announced in Schedule of Classes. Offered Every Term.

Repeatable for 8 Credits

CHE 5996 Chemical Engineering Research Cr. 1-6

Research project. Offered Every Term.

Restriction(s): Enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

CHE 6100 Introduction to Sustainable Engineering Cr. 3

Economic, environmental, social, and technological perspectives relevant to the design, operation and management of engineering activities. Multiple perspectives addressed from a system sustainability view point. Offered Yearly.

Equivalent: STE 6100

CHE 6130 Food Preservation Cr. 4

Offered Winter.

Course Material Fees: \$20

CHE 6450 Biochemical Engineering Cr. 3

An introductory study of the principles of chemical engineering, biochemistry and biology which are essential for the design of industrial systems involving biological transformations. Offered Irregularly.

Prerequisites: ([CHE 3400 with a minimum grade of C-] OR [CHE 3800 with a minimum grade of C-])

CHE 6570 Safety in the Chemical Process Industry Cr. 3

Fundamental and practical experience necessary for safe operation of a chemical process plant. Actual industrial case studies conducted under industry supervision. Offered Winter.

Prerequisites: ([CHE 3400 with a minimum grade of C-] OR [CHE 3800 with a minimum grade of C-])

CHE 6610 Risk Assessment Cr. 3

Introduction to risk assessment in environmental hazard management with emphasis on the chemical industry, including hazard identification, exposure analysis and risk characterization. Offered Fall.

CHE 6810 Chemical Engineering Research Project Cr. 4

Application of engineering and science background to the completion of a senior research project. Methods of research and analysis and interpretation of data. Preparation of a written research paper; oral presentation of research results. Offered Winter.

Prerequisite: CHE 4200 with a minimum grade of C- and CHE 5710 with a minimum grade of C-

CHE 7100 Advanced Engineering Mathematics Cr. 3

Presentation, evaluation and use of mathematical methods within the framework of engineering problems; including ordinary and partial differential equations, transforms and vector operations. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: MSE 7100

CHE 7200 Advanced Transport Phenomena Cr. 4

Basic properties of heat, mass and momentum transfer systems; fundamental equations, transforms and vector operations; includes independent study project. Offered Winter.

Prerequisite: CHE 5200 with a minimum grade of C and CHE 7100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHE 7300 Advanced Thermodynamics Cr. 3

Advanced presentation of the principles of thermodynamics; application to open systems, phase diagrams and chemical equilibria. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: MSE 7300

CHE 7350 Polymer Solutions Cr. 3

Solubility of polymers, configuration of chain molecules, colligative properties of dilute polymer solutions, spectroscopy, optical activity, light and x-ray scattering of polymer solutions, frictional properties of dissolved polymers, solution properties of polyelectrolytes. Offered Biannually.

Prerequisite: CHE 5350 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHE 7390 Tissue Engineering and Hybrid Systems Cr. 4

Seminar and project based approach to the design, development, analysis and application of organ and tissue replacement systems which incorporate processed materials and living cells. Offered Biannually.

Prerequisites: ([BME 5370 with a minimum grade of C]) AND ([BME 5020 with a minimum grade of C] OR [CHE 7100 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7390

CHE 7400 Advanced Kinetics and Reactor Design Cr. 4

Basic properties of reacting systems including the steady state approximation, the relationship of thermodynamics to kinetics, the treatment of coupled reaction problems and design of chemical reactors; includes independent study project. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

CHE 7410 Alternative Fuels: Properties, Processing, and Characterization Cr. 4

Exploration of the latest alternative fuels: their physical and chemical properties, production technologies, and standardization characterization tests. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AET 7410

CHE 7490 Biomedical Microsystems Cr. 4

Biomedical microsystems, with a focus on microfluidics and lab-on-a-chip technologies for medical diagnostics and biological research. Broad coverage of microscale physics; microfabrication methods; separation, purification, and other on-chip processes; biosensing. Offered Fall.

Prerequisite: ECE 5575 with a minimum grade of C or ECE 6570 with a minimum grade of C or BME 6470 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7490, ECE 7590

CHE 7990 Directed Study Cr. 1-9

Library investigation of an approved project in chemical engineering. Independent study, conferences with supervisor and preparation of a comprehensive written and oral report. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

CHE 7995 Special Topics in Chemical Engineering II Cr. 1-4

A consideration of special subject matter in chemical engineering. Topics to be announced in Schedule of Classes. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CHE 8510 Graduate Co-op Experience Cr. 1-3

Presentation of oral and written reports to peer group describing co-op experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

CHE 8996 Research Cr. 1-9

Library and laboratory investigation of an approved proposal for advanced research project. Conferences and periodic oral progress reports. Comprehensive report of entire project upon completion. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 30 Credits

CHE 8997 Chemical Engineering Graduate Seminar Cr. 0.5

Advanced concepts in chemical engineering; presentation of research results. Must attend and present evidence of attending 30 hours of seminar over two-year period, and present one seminar. Offered Every Term.

Prerequisite: CHE 7200 with a minimum grade of C and CHE 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

CHE 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CHE 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CHE 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CHE 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

CHI - CHINESE

CHI 1005 Introduction to Chinese Culture and Language Cr. 3

Conversational Chinese, Chinese culture and customs, everyday Chinese street signs and symbols essential to travel and business in China. Offered for undergraduate credit only. Offered Every Term.

CHI 1006 Chinese Learning Community Cr. 1

Experiential learning course; participation in Chinese cultural events and supplemental Chinese language sessions. Students comment on a minimum of eight approved events via a discussion board, attend language sessions, and present a final project. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([CHI 1005 with a minimum grade of D-])

CHI 1010 Elementary Chinese I Cr. 4

Introduction to the written and spoken forms of Chinese. Offered for undergraduate credit only. Offered Yearly.

Course Material Fees: \$5

CHI 1020 Elementary Chinese Cr. 4

Continuation of CHI 1010. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([CHI 1010 with a minimum grade of D-])

Course Material Fees: \$5

CHI 2010 Intermediate Chinese Cr. 4

Completion of Chinese language sequence. Offered Yearly.

Prerequisites: ([CHI 1010 with a minimum grade of D-])

Course Material Fees: \$5

CHI 2020 Intermediate Chinese II Cr. 4

Continuation of CHI 2010. Offered Winter.

Prerequisites: ([CHI 2010 with a minimum grade of D-])

CHI 2030 Chinese Character Writing Cr. 3

The most difficult part of Chinese learning is character writing. Basic stroke orders, intermediate literacy level. Art of Chinese calligraphy. Offered Spring/Summer.

Prerequisites: ([CHI 1010 with a minimum grade of D-])

CHI 2050 Gateway to Chinese Civilizations Cr. 3

Introduction to Chinese culture, society, and politics. Offered Every Term.

CHI 3010 Pop Culture Cr. 3

Introduction to Chinese pop culture: values, functions, and changes. Offered Winter.

CHI 3022 Introduction to Chinese Literature Cr. 3

Genres and traditions of Chinese literature; influence on China of today. Offered Every Term.

CHI 3100 Advanced Chinese I Cr. 4

Continuation of CHI 2020. Offered Fall.

Prerequisites: ([CHI 2020 with a minimum grade of D-])

CHI 3200 Advanced Chinese II Cr. 4

Continuation of CHI 3100. Offered Winter.

Prerequisites: ([CHI 3100 with a minimum grade of D-])

CHI 3990 Directed Study Cr. 1-6

Directed study tailored to student and faculty interests and specializations. Offered Every Term.

Repeatable for 9 Credits

CHI 4010 Business Chinese Cr. 3

Basic knowledge of business Chinese; basic abilities of listening, speaking, reading, writing, and translating in business Chinese. Offered Fall.

Prerequisites: ([CHI 3200 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

CHI 5210 Introduction to Chinese Linguistics Cr. 3

Writing, sound and grammar systems of Chinese; interaction between Chinese language and Chinese society. Offered Fall.

Equivalent: LIN 5220

CHI 5220 Languages of Asia Cr. 3

Introduction to major language families in Asia; grammar, sounds, language contacts. Offered Winter.

Equivalent: JPN 5220, LIN 5100

CHI 5230 Grammar of Chinese Cr. 3

Chinese grammar from perspectives of negation, question formation, aspects and different parts of speech, and the like. Offered Fall.

Equivalent: LIN 5240

CHI 5300 Teaching Chinese as a Second Language Cr. 1-3

Introduction to basic teaching grammar and sound rules and general teaching methodology. Offered Winter.

Prerequisites: ([CHI 3100 with a minimum grade of D-])

Equivalent: LED 5300

CHI 6840 Readings in China and the World 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. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ASN 6840, HIS 6840

CHM - CHEMISTRY

CHM 1000 Chemistry and Your World Cr. 4

Facts and theories from analytical, inorganic, organic, and physical chemistry, and from biochemistry; their consequences in life processes and the environment. Meets General Education Laboratory Requirement when elected for 4 credits. Offered Fall, Winter.

Course Material Fees: \$110

CHM 1020 Survey of General Chemistry Cr. 4

High school chemistry not required. First course in the terminal sequence consisting of CHM 1020 and CHM 1030. Matter and energy in chemistry, chemical symbols and equations, structure and properties of atoms, introduction to chemical bonding; periodicity in chemistry, solids, liquids, gases, solutions, acids and bases, and equilibrium. Meets General Education Laboratory Requirement. Offered Fall, Winter.

Prerequisites: ([Math Permit to Reg - (L00-L03) with a test score minimum of 10000-39999] OR [MAT 0993 with a minimum grade of C] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 10000-39999] OR [ACT Math with a test score minimum of 18-36] OR [SAT Mathematics with a test score minimum of 490-800] OR [SAT MATH (POST-2016) with a test score minimum of 490-800])

Course Material Fees: \$110

CHM 1030 Survey of Organic/Biochemistry Cr. 4

Organic and biological chemistry; brief introduction to organic chemistry, emphasizing classes of compounds important in biochemical processes; survey of biochemistry with applications to nutrition, physiology, and clinical chemistry; protein structure; intermediary metabolism; molecular biology; and metabolic regulation. Offered Winter.

Course Material Fees: \$110

CHM 1040 Chemistry Skills and Reasoning Cr. 4

Reasoning and mathematical skills needed for development of a scientific approach in chemistry. No credit if taken after any other chemistry course. Offered Fall, Winter.

Prerequisites: ([Math Permit to Reg - (L00-L03) with a test score minimum of 10000-39999] OR [MAT 0993 with a minimum grade of C] OR [MAT 1050 with a minimum grade of C and MAT Permit to Reg ACT/SAT with a test score minimum of 10000-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 10000-39999 and ACT Math with a test score minimum of 18-36] OR [ACT Math with a test score minimum of 21-36 and SAT Mathematics with a test score minimum of 490-800] OR [SAT Mathematics with a test score minimum of 530-800 and SAT MATH (POST-2016) with a test score minimum of 490-800] OR [SAT MATH (POST-2016) with a test score minimum of 530-800])

CHM 1220 General Chemistry I Cr. 4

Introduction to the principles of chemistry for students with high school background in chemistry. Chemical structure, bonding, and reactivity. Satisfies General Education laboratory requirement upon completion of both CHM 1220 and 1230. Only two credits if taken after CHM 1020. No credit after if taken after CHM 1225. Offered Every Term.

Prerequisites: ([CHM 1040 with a minimum grade of C-] OR [CHM Permit to Reg (L0-L3) CPE with a test score minimum of 20000-39999] OR [CHM 1020 with a minimum grade of C-]) AND ([Math Permit to Reg - (L00-L03) with a test score minimum of 20000-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 20000-39999] OR [MAT 1050 with a minimum grade of C-] OR [MAT 1800 with a minimum grade of C-])

Equivalent: CHM 1225

CHM 1225 General Chemistry I for Engineers Cr. 3

Introduction to principles of chemistry for students with high school background in chemistry. Chemical structure, bonding, and reactivity. Satisfies General Education laboratory requirement upon completion of both CHM 1225 and 1230. Only one credit after CHM 1020. No credit after CHM 1220. Offered Every Term.

Prerequisites: ([CHM 1040 with a minimum grade of C-] OR [CHM Permit to Reg (L0-L3) CPE with a test score minimum of 20000-39999] OR [CHM 1020 with a minimum grade of C-]) AND ([Math Permit to Reg - (L00-L03) with a test score minimum of 20000-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 20000-39999] OR May be taken concurrently: [MAT 1800 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: CHM 1220

CHM 1230 General Chemistry I Laboratory Cr. 1

Laboratory course to introduce the scientific method, properties of materials, the role of energy, structure and spectroscopy. Satisfaction of General Education lab requirement is awarded only upon successful completion of both the prereq./coreq. course and this lab course. Offered Every Term.

Prerequisites: (May be taken concurrently: [CHM 1220 with a minimum grade of C-] OR [CHM 1225 with a minimum grade of C-])

Course Material Fees: \$110

CHM 1240 Organic Chemistry I Cr. 4

Introductory organic chemistry combined with the general principles of chemistry. Carbon compounds and chemical bonding, acid-based chemistry, stereochemistry and introductory organic reactions. Offered Every Term.

Prerequisites: ([CHM 1050 with a minimum grade of C-] OR [CHM 1070 with a minimum grade of C-] OR [CHM 1220 with a minimum grade of C- and CHM 1230 with a minimum grade of C-] OR [CHM 1225 with a minimum grade of C-])

CHM 1250 Organic Chemistry I Laboratory Cr. 1

Integrated general/organic chemistry laboratory focusing on spectroscopy, acid-based chemistry, molecular modeling and organic reactions as well as some attention to chromatography. Offered Every Term.

Course Material Fees: \$110

CHM 1420 Chemical Principles II: Organic Chemistry Cr. 6

Accelerated approach to organic/bio-organic chemistry. Offered Irregularly.

Course Material Fees: \$110

CHM 2220 Organic Chemistry II Cr. 4

Organic reactions of functional groups such as aldehydes, ketones and related carbonyl compounds. Extensive discussion of the interface of organic/biochemistry and bioinorganic chemistry. No credit after if taken after CHM 2225. Offered Every Term.

Prerequisites: ([CHM 2240 with a minimum grade of C-] OR [CHM 1240 with a minimum grade of C- and CHM 1250 with a minimum grade of C-])

CHM 2225 Organic Chemistry II for Engineers Cr. 3

Organic reactions of functional groups such as aldehydes, ketones and related carbonyl compounds. Extensive discussion of the interface of organic/biochemistry and bioinorganic chemistry. No credit after if taken after CHM 2220. Offered Every Term.

Prerequisites: ([CHM 1240 with a minimum grade of C-]) AND ([CHM 1250 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CHM 2230 Organic Chemistry II Laboratory Cr. 1

Synthesis of organic and bio-organic compounds. Offered Every Term.

Prerequisites: (May be taken concurrently: [CHM 2220 with a minimum grade of C-] OR [CHM 2225 with a minimum grade of C-])

Course Material Fees: \$110

CHM 2280 General Chemistry II: Analytical Chemistry Cr. 3

Concepts and calculations regarding kinetics, equilibrium, thermodynamics for a variety of reaction types. Qualitative and quantitative examples and applications. Offered Every Term.

Prerequisites: ([CHM 1410 with a minimum grade of C-] OR [CHM 2240 with a minimum grade of C-] OR [CHM 1240 with a minimum grade of C- and CHM 1250 with a minimum grade of C-])

CHM 2290 General Chemistry II: Analytical Chemistry Laboratory Cr. 2

Study and use of acid-base redox, solubility precipitation, and complex forming reactions and equilibria in qualitative and quantitative chemistry. Offered Every Term.

Prerequisites: (May be taken concurrently: [CHM 2280 with a minimum grade of C-])

Course Material Fees: \$110

CHM 2999 Honors Research Problems in Chemistry Cr. 2-4

Research projects under the direction of a senior faculty member. Offered Every Term.

Prerequisites: ([CHM 1240 with a minimum grade of D- and CHM 1250 with a minimum grade of D-] OR [CHM 1410 with a minimum grade of D-])

CHM 3000 Metals in Biology Cr. 3

Descriptive approach to metals involved in biological systems. Offered Fall.

Prerequisites: ([CHM 1240 with a minimum grade of C])

CHM 3020 Intermediate Inorganic Chemistry I Cr. 3

Emphasizes chemistry of the main group elements and includes basic coordination chemistry of the transition metals. Offered Winter.

Prerequisites: ([CHM 1240 with a minimum grade of C])

CHM 4850 Frontiers in Chemistry Cr. 1

Fields of fundamental chemistry now under investigation, presented by invited specialists actively engaged in research. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Chemistry or Chemistry Honors; enrollment limited to students in a BS in Chemistry or Bachelor of Arts degrees.

Equivalent: CHM 8850

Repeatable for 2 Credits

CHM 5020 Intermediate Inorganic Chemistry II Cr. 3

Transition metal chemistry. Coordination compounds and organometallics. Bonding theories and reactivity. Synthesis, purification, and characterization of inorganic compounds with an emphasis on transition metal compounds. Offered Fall.

Prerequisites: ([CHM 6070 with a minimum grade of C] OR [CHM 3020 with a minimum grade of C and CHM 5400 with a minimum grade of C])

Course Material Fees: \$110

CHM 5160 Instrumental Analytical Chemistry Cr. 3

Application of modern instrumental methods to quantitative analysis. Methods that relate instrumental response to chemical concentrations or content. Calibration, data handling, and data evaluation. Emission, flame, infrared, Raman, fluorescence, and magnetic resonance spectroscopy. Mass spectrometry. Electrochemical methods. Chromatography. Offered Fall.

Prerequisites: ([CHM 5400 with a minimum grade of C] OR [CHM 5420 with a minimum grade of C] OR [CHM 5440 with a minimum grade of C]) AND ([PHY 2180 with a minimum grade of C])

CHM 5400 Biological Physical Chemistry Cr. 4

Presentation of physical chemistry topics: thermodynamics, solution equilibria, chemical kinetics, quantum chemistry, spectroscopy, statistical mechanics, transport processes, and structure with biological applications. Offered Winter.

Prerequisites: ([CHM 2280 with a minimum grade of C]) AND ([MAT 2020 with a minimum grade of C]) AND (May be taken concurrently: [MAT 2030 with a minimum grade of C]) AND (May be taken concurrently: [PHY 2170 with a minimum grade of C])

CHM 5420 Physical Chemistry I Cr. 3

Chemical thermodynamics, phase equilibrium, solutions, surface chemistry, electrochemistry. Only two credits applicable toward degree after CHM 5400. Offered Fall.

Prerequisites: ([CHM 2280 with a minimum grade of C]) AND ([MAT 2020 with a minimum grade of C]) AND (May be taken concurrently: [MAT 2030 with a minimum grade of C]) AND (May be taken concurrently: [PHY 2170 with a minimum grade of C])

CHM 5440 Physical Chemistry II Cr. 4

Kinetic theory, empirical and theoretical kinetics, quantum theory, atomic and molecular structure, molecular spectroscopy, statistical mechanics. Only three credits applicable to degree after CHM 5400. Offered Winter.

Prerequisites: ([CHM 2280 with a minimum grade of C]) AND ([MAT 2020 with a minimum grade of C]) AND (May be taken concurrently: [MAT 2030 with a minimum grade of C]) AND (May be taken concurrently: [PHY 2170 with a minimum grade of C])

CHM 5510 Chemical Synthesis Laboratory Cr. 3

Advanced techniques for the synthesis, purification and characterization of organic compounds. Offered Fall.

Prerequisites: ([CHM 1420 with a minimum grade of C-] OR [CHM 2220 with a minimum grade of C- and CHM 2230 with a minimum grade of C-])

Course Material Fees: \$110

CHM 5550 Physical Chemistry Laboratory Cr. 2

Principles of measurement. Fundamental investigations of thermodynamics. Fundamental spectroscopic and kinetic measurements. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [CHM 5400 with a minimum grade of C] OR [CHM 5420 with a minimum grade of C] OR [CHM 5440 with a minimum grade of C]) AND ([PHY 2180 with a minimum grade of C])

Course Material Fees: \$110

CHM 5570 Instrumental Analytical Chemistry Laboratory Cr. 3

Lecture and laboratory experiments covering electronics, measurement, and instrumentation. Principles and analytical applications of electrochemistry, chromatography, and spectroscopy including UV-visible, IR, magnetic resonance, and mass spectroscopy. Offered Winter.

Prerequisites: ([CHM 5160 with a minimum grade of C])

Course Material Fees: \$110

CHM 5600 Survey of Biochemistry Cr. 3

Protein structure and its relationship to function. Principles of enzyme catalysis. Allosteric regulation of protein function and enzyme catalysis. Pathways of carbohydrate, fat, and protein metabolism in eukaryotic organisms. Introduction to mechanisms of energy coupling and photosynthesis. Information transfer in living systems. Molecular biology. Offered Fall, Winter.

Prerequisites: ([CHM 1420 with a minimum grade of C] OR [CHM 2220 with a minimum grade of C] OR [CHM 2225 with a minimum grade of C])

CHM 5900 Biomedical Research as Discovery Cr. 2

Solving biochemical research problems using laboratory research tools including computational methods. Offered Yearly.

Prerequisites: ([CHM 6610 with a minimum grade of D-]) AND ([CHM 6620 with a minimum grade of D-])

CHM 5998 Honors Thesis Research in Chemistry Cr. 2-4

Original investigation under direction of senior staff member. Submission of B.S. thesis or manuscript in publication format. Presentation of public lecture on B.S. research. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Biochem & Chem Bio Honors or Chemistry Honors.

Repeatable for 8 Credits

CHM 5999 Research in Chemistry Cr. 2-4

Original investigation under the direction of a senior staff member. Submission of B.S. thesis or manuscript in publication format. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Biochem & Chem Bio Honors, Biochem & Chemical Biology, Chemistry or Chemistry Honors.

Repeatable for 8 Credits

CHM 6060 Materials Chemistry and Engineering Cr. 3

Solid state structure and bonding. Crystallography, defects, and non-stoichiometry. Phase diagrams. Synthesis and properties of extended solids and nanomaterials. Molecular interactions and statistical physics of soft matter. Synthesis and characterization techniques of polymeric and colloidal material. Physical properties, phase behavior, self-assembly and ordering in synthetic and biological soft matter. Offered Irregularly.

Prerequisites: ([CHM 3020 with a minimum grade of C])

CHM 6070 Advanced Bioinorganic Chemistry Cr. 3

Applications of inorganic chemistry principles to understanding biological systems including metalloenzymes. Offered Winter.

Prerequisite: CHM 3000 with a minimum grade of C

CHM 6090 Organometallic Chemistry Cr. 3

Models and Applications of the Organometallic Chemistry of the Transition Metals including Activation of Small Molecules and Bioorganometallics. Offered Winter.

Prerequisite: CHM 5020 with a minimum grade of C

CHM 6170 Advances in Bioanalytical Chemistry Cr. 3

How analytical methods are used to obtain information regarding biological systems. Offered Irregularly.

Prerequisite: CHM 5160 with a minimum grade of C

CHM 6240 Organic Spectroscopy Cr. 3

Application of IR, NMR, UV, and mass spectrometry to the identification of organic compounds. Emphasis on interpretation of spectra, especially NMR. Recommended for students intending to do graduate or industrial work in organic chemistry. Offered Winter.

Prerequisite: CHM 1420 with a minimum grade of C or CHM 2220 with a minimum grade of C

CHM 6270 Advanced Bioorganic Chemistry and Drug Design Cr. 3

Studies of biological problems using organic synthetic methods and applications to drug design. Offered Fall.

Prerequisite: CHM 6620 with a minimum grade of C

CHM 6440 Computational Chemistry Cr. 3

Aspects of computational chemistry pertinent to effective use of molecular modeling techniques. Molecular mechanics, semi-empirical and ab initio calculations, molecular dynamics. Offered Irregularly.

Prerequisite: CHM 5440 with a minimum grade of C

Course Material Fees: \$95

CHM 6570 Computational Biochemistry and Bioinformatics Cr. 3

Application of computational and molecular modeling software tools to biochemical problems. Offered Irregularly.

Prerequisite: CHM 5400 with a minimum grade of C

CHM 6610 Biological Chemistry Laboratory Cr. 3

Basic experiments in isolation, purification, and analysis of biomolecules. Techniques currently used in molecular biology and recombinant DNA procedures stressed. Offered Fall, Winter.

Prerequisite: CHM 6620 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Biochem & Chem Bio Honors, Biochem & Chemical Biology, Chemistry or Chemistry Honors.

Course Material Fees: \$110

CHM 6620 Metabolism: Pathways and Regulation Cr. 3

Major metabolic pathways of carbohydrate, fatty acid, amino acid, and nucleotide synthesis and degradation. Pathways and mechanisms of energy generation. Hormonal and allosteric regulation of enzyme activity. Offered Fall.

Prerequisites: ([CHM 2220 with a minimum grade of C-])

CHM 6635 Tools of Molecular Biology Cr. 3

Principles underlying genetic and biochemical methods; complements work in lab CHM 6610. Offered Winter.

Prerequisite: CHM 6620 with a minimum grade of C

CHM 6640 Molecular Biology Cr. 3

Nucleic acid structure and function. Mechanism and control of replication, transcription, and translation. Mutation, genetic recombination, and recombinant DNA. Membranes and organelles. Offered Winter.

Prerequisite: CHM 6620 with a minimum grade of C

CHM 6740 Laboratory Safety Cr. 1-2

Discussion and demonstration of safe laboratory practice. Use, storage and disposal of ordinary and hazardous substances; personal protection devices; regulations and codes. Required for all graduate degrees in chemistry. Not for chemistry major credit Offered Fall, Winter.

CHM 6990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

CHM 6991 Internship in Chemistry Cr. 1

Practical research experience through visiting a university, industry, or national laboratory. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Chemistry; enrollment is limited to Graduate level students.

Repeatable for 2 Credits

CHM 7010 Descriptive Inorganic Chemistry Cr. 3

Reactions and reactivity of inorganic compounds. Emphasizes mechanistic and synthetic approaches to transition metal, organometallic, main group chemistry. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7060 Materials Chemistry and Engineering Cr. 3

Solid state structure and bonding. Crystallography, defects, and non-stoichiometry. Phase diagrams. Synthesis and properties of extended solids and nanomaterials. Molecular interactions and statistical physics of soft matter. Synthesis and characterization techniques of polymeric and colloidal material. Physical properties, phase behavior, self-assembly and ordering in synthetic and biological soft matter. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7070 Advanced Bioinorganic Chemistry Cr. 3

Applications of inorganic chemistry principles to understanding biological systems including metalloenzymes. Offered Irregularly.

Prerequisite: CHM 3000 with a minimum grade of D-

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7080 Electron Microscopy Cr. 3

Basics of electron microscopy and its applications. The theory and practice of transmission and scanning electron microscopies, along with associated spectroscopies, will be presented. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7090 Organometallic Chemistry Cr. 3

Models and Applications of the Organometallic Chemistry of the Transition Metals including Activation of Small Molecules and Bioorganometallics. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7100 Theory of Analytical Chemistry Cr. 3

Physicochemical principles applied to reaction equilibria and kinetics of analytical importance. Approaches to problem solving in complex systems, principally in the solution phase. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7120 Electroanalytical Chemistry Cr. 3

The theory and practice of modern voltammetric methods as applied to analytical, kinetic, and mechanistic studies. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7142 Data Analysis Cr. 3

Application of statistics, chemometrics, and experimental design to the interpretation of chemical measurements; validation of analytical methods; practice and theory of sampling for chemical measurements. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7160 Separation Science Cr. 3

Theory and practice of gas-liquid, supercritical fluid, and thin-layer chromatography and capillary electromigration methods. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7170 Advances in Bioanalytical Chemistry Cr. 3

How analytical methods are used to obtain information regarding biological systems. Offered Irregularly.

Prerequisite: CHM 5160 with a minimum grade of D-

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7180 Mass Spectrometry Cr. 3

Topics will include ICP, ICP-MS, AA, LIBX, MIPS, etc. Instrumentation concepts. Review of contemporary literature. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7200 Organic Structures and Mechanisms Cr. 3

Structure and stereochemistry of organic molecules. Correlations between structure and chemical and physical properties. Reaction mechanisms. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7220 Organic Reactions and Synthesis Cr. 3

Alkylation, condensation, and Grignard reactions; synthesis of acid derivatives; cycloadditions and unimolecular rearrangements. Scope and limitations of important synthetic methods of organic chemistry. Offered Winter.

Prerequisite: CHM 7200 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7240 Organic Spectroscopy Cr. 3

Application of IR, NMR, UV, and mass spectrometry to the identification of organic compounds. Emphasis on interpretation of spectra, especially NMR. Recommended for students intending to do graduate or industrial work in organic chemistry. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7270 Advanced Bioorganic Chemistry and Drug Design Cr. 3

Studies of biological problems using organic synthetic methods and applications to drug design. Offered Irregularly.

Prerequisite: CHM 6620 with a minimum grade of D-

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7410 Statistical Thermodynamics Cr. 3

Statistical methods of determining thermodynamic properties of bulk materials from molecular properties. Real gases at high density, crystals, liquids; phase transitions, transport properties. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7430 Chemical Kinetics Cr. 3

Empirical analysis of reaction rates, theories of chemical kinetics, gas phase reactions, molecular collisions and non-thermal reactions, and kinetics in liquids. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7440 Computational Chemistry Cr. 3

Aspects of computational chemistry pertinent to effective use of molecular modeling techniques. Molecular mechanics, semi-empirical and ab initio calculations, molecular dynamics. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

CHM 7470 Quantum Chemistry Cr. 3

Theorems of quantum mechanics, approximation methods, solutions to simple atomic and molecular systems, electronic structure of many-electron atoms and molecules, chemical bonding. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7480 Molecular Spectroscopy Cr. 3

Basic theory of interaction of molecules with the electromagnetic field. Rotational, vibrational, and electronic spectra of molecules; elements of lasers, multiphoton spectroscopy. Offered Biannually.

Prerequisite: CHM 7470 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7500 Modern Methods in Experimental Chemistry Cr. 3

Survey of modern methods for performing experiments in chemistry, including: laser techniques, high vacuum methods, time-resolved techniques, surface characterization, electronics and optics, and computer interfacing. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7570 Computational Biochemistry and Bioinformatics Cr. 3

Application of computational and molecular modeling software tools to biochemical problems. Offered Irregularly.

Prerequisite: CHM 5400 with a minimum grade of D-

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7600 Structure and Function of Biomolecules Cr. 3

Introduction to the structure and function of macromolecules of biological importance. Emphasis on bioenergetics, nucleic acid and protein structure and chemical reactivities, enzyme catalysis, enzyme kinetics, carbohydrate and lipid structure and function, and membrane structure. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7620 Metabolism: Pathways and Regulation Cr. 3

Major metabolic pathways of carbohydrate, fatty acid, amino acid, and nucleotide synthesis and degradation. Pathways and mechanisms of energy generation. Hormonal and allosteric regulation of enzyme activity. Offered Fall.

Prerequisite: CHM 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7635 Tools of Molecular Biology Cr. 3

Principles underlying genetic and biochemical methods; complements work in lab CHM 6610. Offered Yearly.

Prerequisite: CHM 7620 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7640 Molecular Biology Cr. 3

Nucleic acid structure and function. Mechanism and control of replication, transcription, and translation. Mutation, genetic recombination, recombinant DNA. Membranes and organelles. Offered Winter.

Prerequisite: CHM 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7740 Responsible Conduct of Research Cr. 1

Recognition of and approach to ethical issues that chemistry students may confront during their careers; the tools for dealing with these quandaries; procedures for reporting and resolving such conflicts. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CHM 7990 Directed Study Cr. 1-4

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

CHM 8090 Advanced Topics in Inorganic Chemistry Cr. 1-3

Topics offered in different semesters: inorganic synthesis and reactions; organometallic chemistry; bioinorganic chemistry; spectroscopy and stereochemistry of inorganic compounds; inorganic reaction mechanisms; photochemistry. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

CHM 8190 Advanced Topics in Analytical Chemistry Cr. 1-3

The following topics offered in different semesters: sample preparation, surface analysis, analytical mechanisms, advanced instrumentation, computer interfacing. Offered Irregularly.

Prerequisite: CHM 7100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

CHM 8290 Advanced Topics in Organic Chemistry Cr. 1-3

The following topics offered in different semesters: physical-organic chemistry; kinetics of organic reactions; structure-reactivity correlations; reaction mechanisms; molecular orbital theory in organic chemistry; photochemistry; free radical chemistry; polymer chemistry; recent developments in organic chemistry; synthetic strategy; chemistry of natural products including steroids, terpenes, alkaloids, carbohydrates, and proteins. Offered Irregularly.

Prerequisite: CHM 7200 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

CHM 8420 X-Ray Crystallography Cr. 3

Theoretical and practical aspects of modern x-ray crystallography. Training and practice in determination of crystal structure. Offered Irregularly.

Prerequisite: CHM 7010 with a minimum grade of C or CHM 7240 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CHM 8490 Advanced Topics in Physical Chemistry Cr. 1-3

The following topics offered in different semesters: chemistry of the solid state; electron spin resonance; lasers and nonlinear spectroscopy; molecular dynamics; molecular quantum mechanics; particle and photon scattering; photophysics and photochemistry; radiation and nuclear chemistry; theory of gas phase kinetics. Offered Irregularly.

Prerequisite: CHM 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

CHM 8690 Advanced Topics in Biochemistry Cr. 1-3

Topics offered in different semesters: applications of spectroscopy to biochemical systems; chemical carcinogenesis; DNA repair; enzyme chemistry; experimental methods in molecular biology; hormone biochemistry; mechanisms of oxygen metabolism; membrane chemistry. Offered Irregularly.

Prerequisite: CHM 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

CHM 8700 Research in Chemistry Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 40 Credits

CHM 8800 Seminar in Analytical Chemistry Cr. 1

Required of all graduate students in analytical chemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

CHM 8810 Seminar in Organic Chemistry Cr. 1

Required of all graduate students in organic chemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

CHM 8820 Seminar in Inorganic Chemistry Cr. 1

Required of all graduate students in inorganic chemistry. Weekly meeting of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

CHM 8830 Seminar in Physical Chemistry Cr. 1

Required of all graduate students in physical chemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

CHM 8840 Seminar in Biochemistry Cr. 1

Required of all graduate students in biochemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and participates in discussions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Chemistry; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

Repeatable for 4 Credits

CHM 8850 Frontiers in Chemistry Cr. 1

Fields of fundamental chemistry now under investigation, presented by invited specialists actively engaged in research. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHM 4850

Repeatable for 3 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

CHM 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

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

Offered Every Term.

Prerequisite: CHM 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

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

Offered Every Term.

Prerequisite: CHM 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

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

Offered Every Term.

Prerequisite: CHM 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 998.99 Credits

CHM 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

CLA - CLASSICS

CLA 1010 Classical Civilization Cr. 3-4

Survey of the culture and civilization of Ancient Greece and Rome, in particular those aspects that laid the political, social, and cultural framework of the modern world. Offered Every Term.

CLA 1230 Word Origins: English Words from Greek and Latin Cr. 3-4

Vocabulary-building course designed to enlarge English vocabulary and increase understanding and spelling proficiency through a study of Greek and Latin roots of English words; aspects of interpreting and remembering legal, medical, and scientific vocabularies included. Offered Every Term.

CLA 2000 Greek Mythology Cr. 3-4

Typical myths related to religion, custom, ethics, philosophy, art, literature. Offered Every Term.

CLA 2200 Introduction to Greek Tragedy Cr. 3-4

Dramatic and literary qualities of representative plays of Aeschylus, Sophocles and Euripides. The origin and development of Greek tragedy related to the enduring quality and contemporary relevance of these dramas. Offered Every Term.

CLA 2300 Ancient Comedy Cr. 3

Dramatic and literary qualities of representative plays of Aristophanes, Menander, Plautus and Terence. Origins and development of Greek Comedy related to the enduring quality and contemporary relevance of these dramas and their influence on later literature. Offered Every Term.

CLA 3050 Cleopatra Cr. 3

Cleopatra as a figure of history and of myth, using sources ranging from ancient texts to contemporary websites, literature, history, art and film. Use of methodologies that classicists employ to focus on this single aspect of the ancient world; study of a historical problem that is plagued with biases. Offered Irregularly.

CLA 3060 Medea in African American Literature Cr. 3

Ancient sources about Medea; her presence in work of four African American authors: W.E.B. DuBois, Countee Cullen, Toni Morrison, and Percival Everett. Offered Irregularly.

CLA 3150 Athens and the Ancient Greek World Cr. 3-4

Cultural history of ancient Greece from the time of the first Olympic games (776 BCE) to the reign of Alexander the Great and the advent of the Hellenistic kingdoms (336 BCE); focus on the greatest of the Greek city-states, Athens. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

CLA 3190 Topics on Women in Antiquity Cr. 3

Topics on roles of women and views of gender and sexuality in ancient Greece and Rome, drawn from fields such as literature, art, drama, and law. Offered Irregularly.

Repeatable for 6 Credits

CLA 3300 Coins and Coinage of the Greeks and Romans Cr. 1-3

Origin and uses of coined money in the Greco-Roman world; economic, social, political, cultural impact of coinage on Greek and Roman civilization from the Sixth Century B.C.E. to end of Second Century C.E. Offered Irregularly.

Repeatable for 3 Credits

CLA 3350 Plutarch's Lives of the Noble Greeks and Romans Cr. 3

Structured reading of one of the formative works in the Western canon, which has had lasting influence on biography as a genre and upon individuals such as William Shakespeare, Jean-Jacques Rousseau, Ralph Waldo Emerson, William Wordsworth, George Bernard Shaw, Harry Truman, Robert Lowell, Barbara Chase-Riboud, and many others. Offered Irregularly.

Repeatable for 998.99 Credits

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. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

CLA 3530 The World of Early Christianity Cr. 3

A historical survey of the cultural, social, and literary world of early Christianity. Offered Yearly.

Equivalent: GKM 3530

CLA 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. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: GKM 3590

CLA 3600 Religious Experience Among the Ancient Greeks and Romans Cr. 3

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. Offered Irregularly.

CLA 3700 The Golden Age of Rome Cr. 3-4

Interdisciplinary approach to the most important period of Roman history: the beginning of The Roman Empire under Augustus; history, politics, literature, art. Offered Biannually.

CLA 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. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: GKM 3720

CLA 3800 Survey of Greek Literature Cr. 3-4

Representative sampling of important Greek literary texts in English translation. Offered Biannually.

CLA 3825 Survey of Latin Literature Cr. 3-4

Representative sampling of important Latin literary texts in English translation. Offered Biannually.

CLA 3930 Topics in Classical Civilization Cr. 1-4

In-depth study of some aspects of Greek and Roman civilization. Topics to be announced in Schedule of Classes. All readings in English. Offered Every Term.

Repeatable for 8 Credits

CLA 3999 Further Studies in Mythology Cr. 3

A more in-depth study of mythology with special reference to particular classical myths or theories. Offered Irregularly.

Prerequisites: ([CLA 2000 with a minimum grade of D-])

Repeatable for 998.99 Credits

CLA 4998 Honor's Thesis Cr. 3

Completion of an extended examination of a topic or research question in Classics, under the direction of one or more members of the departmental faculty. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Classics Honors.

CLA 5050 Cleopatra Cr. 3

Cleopatra as a figure of history and of myth, using sources ranging from ancient texts to contemporary websites, literature, history, art and film. Use of methodologies that classicists employ to focus on this single aspect of the ancient world; study of a historical problem that is plagued with biases. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

CLA 5150 Athens and the Ancient Greek World Cr. 3-4

Cultural history of ancient Greece from the time of the first Olympic games (776 BCE) to the reign of Alexander the Great and the advent of the Hellenistic kingdoms (336 BCE); focus on the greatest of the Greek city-states, Athens. Offered Biannually.

CLA 5190 Topics on Women in Antiquity Cr. 3

Topics on roles of women and views of gender and sexuality in ancient Greece and Rome, drawn from literature, art, drama, and law. Offered Irregularly.

Repeatable for 6 Credits

CLA 5200 Special Studies Cr. 1-4

In-depth study of some aspect of Greek and Roman civilization. Topics may be drawn from the fields of literature, archaeology, art and history, and will be announced in Schedule of Classes. All readings in English. Offered Irregularly.

Repeatable for 8 Credits

CLA 5300 Methods and Materials in Classical Studies Cr. 3-6

Introduction to various aspects of the material culture of Greek and Roman antiquity and to methods for approaching its study. Offered Biannually.

Prerequisites: ((CLA 1010 with a minimum grade of D-))

CLA 5350 Plutarch's Lives of the Noble Greeks and Romans Cr. 3

Structured reading of one of the formative works in the Western canon, which has had lasting influence on biography as a genre and upon individuals such as William Shakespeare, Jean-Jacques Rousseau, Ralph Waldo Emerson, William Wordsworth, George Bernard Shaw, Harry Truman, Robert Lowell, Barbara Chase-Riboud, and many others. Offered Irregularly.

CLA 5530 The World of Early Christianity Cr. 3

A historical survey of the cultural, social, and literary world of early Christianity. Offered Yearly.

Equivalent: GKM 5530

CLA 5590 Byzantine Civilization Cr. 3

Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. Offered for undergraduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: GKM 5590

CLA 5600 Religious Experience Among the Ancient Greeks and Romans Cr. 3

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. Offered for graduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

CLA 5700 The Golden Age of Rome Cr. 3-4

Interdisciplinary approach to the most important period of Roman history: the beginning of The Roman Empire under Augustus; history, politics, literature, art. Offered for graduate credit only. Offered Irregularly.

CLA 5720 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. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: GKM 5720

CLA 5800 Survey of Greek Literature Cr. 3-4

Representative sampling of important Greek literary texts in English translation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CLA 5825 Survey of Latin Literature Cr. 3-4

Representative sampling of important Latin literary texts in English translation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CLA 5990 Directed Study Cr. 1-4

Directed independent research in depth on a topic or author not treated in the regular classics offerings, culminating in a course paper. Offered Every Term.

Repeatable for 8 Credits

CLA 5993 Writing Intensive Course in Classical Civilization Cr. 0

Disciplined writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Grade in CLA 5993 is independent of grade in corequisite course. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

CLA 6260 Further Studies in Mythology Cr. 3

An in-depth study of mythology with special reference to particular classical myths or theories of myth. Offered Irregularly.

Prerequisites: ((CLA 2000 with a minimum grade of D-))

Repeatable for 6 Credits

CLA 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: FRE 7010, GER 7010, ITA 7010, NE 7010, SLA 7010, SPA 7010

CLS - CLINICAL LABORATORY SCIENCE

CLS 2080 Clinical Laboratory Science Seminar Cr. 1

Introduction to clinical laboratory sciences. Opportunities and responsibilities. Offered Fall, Winter.

CLS 2990 Pre-professional Directed Study Cr. 1-3

Independent study under faculty supervision. Offered Fall, Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 3020 Hematology Lecture and Laboratory Cr. 4

Basic study of blood-forming organs and components of blood; explanation of basic hematological procedures. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$75

CLS 3040 Immunohematology Lecture and Laboratory Cr. 4

Principles of immunology and theory of procedures employed in the clinical blood bank. Survey of the organization and operation of a blood bank. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$130

CLS 3080 Instrumentation Lecture and Laboratory Cr. 4

Introduction to fundamental laws of electronics, the theoretical basis of instrument design, and quality control in laboratory testing. Application of instrumental methods, including spectrophotometric, fluorometric, electroanalytical, and chromatographic methods to the clinical laboratory. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$85

CLS 3090 Introduction to Professional Practice Cr. 2

Introduction to pre-professional and professional practice, education methodologies for the lab, intro to research in the field, ethics, and critical thinking in the lab. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs; enrollment limited to students in the Pharmacy and Health Sciences.

CLS 3100 Basic Techniques: Microscopy Cr. 3

Specimen collection, preparation, and examination of urine and other body fluids such as spinal fluid, semen, and synovial fluid. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$85

CLS 3280 Clinical Chemistry Lecture and Laboratory Cr. 4

Methodologies and interpretations of results of clinical chemistry diagnostic tests. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$85

CLS 3330 Medical Terminology Cr. 1

Study of medical terms in a body system approach. Review of anatomy and physiology. Offered Every Term.

CLS 4000 Clinical Hematology Cr. 5

Theory and principles for evaluation of the quantity, morphology and function of cellular components of blood. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 4010 Clinical Chemistry Cr. 3

Biochemical analysis of blood and other body fluids to determine values of various chemical substances, using routine methods and automation. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 4020 Clinical Blood Bank Cr. 2

Theory and principles involving antigen-antibody reactions of blood. Obtaining, storage and preparation of whole blood or blood components for infusion. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 4030 Clinical Microbiology Cr. 5-6

Obtaining, culturing, identification and antibiotic sensitivity of microorganisms causing infection or infestation. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 4040 Laboratory Operations Cr. 3

Laboratory management issues and problems, with emphasis on the hospital setting. Includes management theory, interpersonal and technical skills, legal and regulatory issues, computers in laboratories, quality assessment and improvement, and healthcare marketing. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs; enrollment limited to students in the Pharmacy and Health Sciences.

CLS 4050 Clinical Immunology Cr. 1

Study of diseases related to diagnostic immunology. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 4210 Hemostasis Lecture and Laboratory Cr. 2

Lecture and laboratory course covering principles of hemostasis and assessment of hemostasis status. Performance and interpretation of diagnostic tests, along with problem solving and correlation of laboratory findings with disease states. Offered Fall.

Course Material Fees: \$75

CLS 4230 Hematology II Cr. 2

Continuation of Hematology I. Introduction to hematologic neoplasms. Application of laboratory methods for diagnosis and treatment. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$85

CLS 4990 Professional Directed Study Cr. 1-8

Independent study under faculty supervision. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 5020 Pathophysiology for the Clinical Laboratory Cr. 3

Advanced pathophysiologic concepts including etiology, pathogenesis, and clinical manifestations, of commonly encountered altered health states in the adult human. Offered Fall.

Restriction(s): Enrollment limited to students in a BS in Clinical Lab Science or Bachelor of Health Science degrees.

CLS 5070 Clinical Pathology Correlation Cr. 2

Correlation of laboratory data and clinical history through the analysis of case studies. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 5500 Immunology and Serology Cr. 3

Lectures and studies; applications of immunology and serology in a lab setting, including relevance to human medicine. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$140

CLS 5510 Diagnostic Microbiology I Cr. 4

Lectures and laboratory course in diagnostic microbiology, with a focus on the fundamentals of clinical bacteriology, and human infectious diseases. Offered Winter.

Restriction(s): Enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$140

CLS 5520 Diagnostic Microbiology II Cr. 4

Lecture and laboratory course in diagnostic microbiology with a focus on clinical virology, mycology, and parasitology. Offered Fall.

Restriction(s): Enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$140

CLS 5530 Microbiology Simulation Laboratory Cr. 3

Application of previously acquired theory and techniques in a simulated clinical microbiology laboratory, with emphasis on work organization, correlation of results, management, decision-making, and quality assurance. Offered Fall, Spring/Summer.

Prerequisites: ([CLS 5510 with a minimum grade of C]) AND ([CLS 5520 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$100

CLS 5550 Molecular Diagnostics Cr. 2

Review of molecular biology applicable to current testing systems. Laboratory techniques to elucidate molecular structure and disease states; DNA hybridization, agarose gel electrophoresis; southern and western blot techniques; DNA sequencing; PCR. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$140

CLS 5993 Writing Intensive Course in Clinical Laboratory Science Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Course must be elected in conjunction with designated corequisite; see Schedule of Classes for corequisites available each term. Satisfies University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CMT - CONSTRUCTION MANAGEMENT TECHNOLOGY

CMT 3000 Construction Estimating and Bidding Cr. 3

Fundamental cost estimating principles, processes and methods used in residential and commercial construction. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3010 Introduction to Construction Management Cr. 3

Overview of construction industry; processes involved in construction projects from conception to final delivery. Offered Fall.

Prerequisites: ([CMT 21X0 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3020 Residential and Commercial Land Development and Design Cr. 3

Role and responsibilities of a developer; financing strategies and new trends in lending; forming an effective partnership. Technical processes: from undeveloped land to surveying, conceptual drawing, site planning process, engineering and design, permits, and construction. Offered Winter.

Prerequisites: ([CMT 2X20 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3030 Construction Safety Management Cr. 3

Construction safety and health management as applicable to contractors, owners, and designers. Construction injury and fatality statistics; humanitarian, legal and economic justification for safety; accident causation and control theories; OSHA standards and safe construction procedures. Safety policy, project safety rules, communications network, accident investigation and record keeping, worker orientation and training, and safety program evaluation and audits. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3040 Building Codes Cr. 3

Requirements by regulatory agencies pertaining to the construction industry; current International Building Code and other regulations; emphasis on Michigan applications. Offered Winter.

Prerequisites: ([CMT 21X0 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3050 Construction Accounting and Financial Management Cr. 3

Successful management of finances of the construction project and companies. Accounting systems, financial statements, overhead and profits, cash flows for construction projects and companies, project financing, and financial decision making. Offered Fall.

Prerequisites: ([ECO 2020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3060 Planning and Scheduling Cr. 3

Principles and use of Primavera Project Planner scheduling software: project planning, scheduling, control, and analysis. Project scheduling methods and construction activity analysis, including Critical Path Method (CPM) and networking techniques. Offered Winter.

Prerequisites: ([ET 5870 with a minimum grade of C])

CMT 3070 Introduction to Green Construction Cr. 3

Sustainable or green-building design and construction: efficient use of resources to create healthier and more energy-efficient buildings. Motivations for green construction projects, technical aspects of their design, obstacles, future directions. Knowledge and capabilities to project-manage a green building. Offered Fall.

Prerequisites: ([BIO 1030 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3080 Advanced Computers in Construction Cr. 3

Advanced applications of MS Excel software in estimating and financial management of construction projects; making effective project presentations using MS PowerPoint. Field applications of computers; use of PDAs and handheld devices in data acquisition and management. Use of REVIT software in Building Information Modeling (BIM). Offered Winter.

Prerequisites: ([CE 3010 with a minimum grade of C] OR [ET 2140 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4030 Facilities Management Principles Cr. 3

Aspects of facilities management: buildings and grounds, custodial services, design and construction, operations and maintenance management. Offered Fall.

Prerequisites: ([CMT 21X0 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4050 Construction Methods Cr. 3

Overview of construction practices in industry; processes and equipment involved in construction projects from conception to final delivery. Offered Fall.

Prerequisites: ([CMT 21X0 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4070 Mechanical and Electrical Systems in Buildings Cr. 3

Principles and applications of basic mechanical and electrical systems; design examples; emerging technology and environmental issues; essential engineering calculations and data. Offered Fall.

Prerequisites: ([PHY 2130 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4140 Project Administration Cr. 3

Overview of construction project and contract administration and management. Use of Excel, Expedition, and Prolog software. Offered Winter.

Prerequisites: ([CMT 2X00 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4200 Senior Project Cr. 3

Capstone project; senior students work in teams; application of skills, knowledge, techniques and concepts. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

COM - COMMUNICATION

COM 1010 Oral Communication: Basic Speech Cr. 3

Beginning course emphasizing fundamentals of speech preparation. Development of poise and confidence in speaking. Offered Every Term.

COM 1500 Survey of Mass Communication Cr. 3

Introductory course in understanding communication theory and effects and the communication industry in the United States. Offered Every Term.

COM 1600 Introduction to Audio-Television-Film Production Cr. 3

Introduction to production techniques and processes; hands-on use of image and sound recording and editing equipment; creation of dramatic and non-fiction studio and location-based projects. Offered Every Term.

Course Material Fees: \$90

COM 1610 Fundamentals of New Media Production Cr. 3

Critical introduction to the emerging landscape of producing original digital content for information and communication technology. Students will develop a critical perspective and the skills needed to engage in new media culture. Offered Winter.

Prerequisites: ((COM 1600 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$70

COM 2000 Introduction to Communication Studies Cr. 3

Introduction to the discipline of communication studies. Survey of theory, research, and practice. Offered Yearly.

COM 2010 Introduction to Film Cr. 4

Examination of film techniques and basic methods of film analysis. Offered Every Term.

Course Material Fees: \$15

Equivalent: ENG 2450

COM 2020 History of Film Cr. 3

Critical study of the motion picture as a modern visual art; screening and analysis of representative fiction films to illustrate historical periods and genres. Offered Every Term.

Course Material Fees: \$15

COM 2030 Journalistic Grammar and Style Cr. 3

Grammar use in journalism; Associated Press Style Book. Offered Every Term.

COM 2040 Voice and Articulation Cr. 3

Laboratory for individual improvement in voice and articulation. Analysis of voice and articulation of each student followed by intensive exercise. Offered Biannually.

COM 2100 News Reporting Cr. 3

Basic news reporting: gathering the facts and writing them well. Journalism skills course. Offered Every Term.

Prerequisites: ((COM 1500 with a minimum grade of C)) AND ((COM 2030 with a minimum grade of C))

Course Material Fees: \$30

COM 2110 Argumentation and Debate Cr. 3

Logical and legal foundation of the argumentation process; practical experience in analysis, reasoning, case-building, evaluation of evidence, refutation and cross-examination. Offered Every Term.

Prerequisites: ((COM 1010 with a minimum grade of D-) OR [Oral Communication P=100/F=000 with a test score minimum of 100])

COM 2160 Campaigns and Social Movements Cr. 3

Critical discussion of the social foundations and values underlying human persuasion. Analysis of persuasive strategies and techniques used in contemporary society: political campaigns, social movements, advertising and consumerism in the U.S. Offered Every Term.

COM 2170 Persuasive Speaking Cr. 3

Advanced public speaking; emphasis on persuasive speeches. Application of social psychology to audience analysis, to speech construction and presentation, and to critical analysis of persuasive public discourse. Offered Every Term.

Prerequisites: ((COM 1010 with a minimum grade of D-) OR [Oral Communication P=100/F=000 with a test score minimum of 100])

COM 2200 Interpersonal Communication Cr. 3

Introduction to theory and research on interpersonal communication; analysis of everyday communication situations. Offered Yearly.

COM 2210 Media Writing and Storytelling Cr. 3

Application of writing principles to various forms of copy; continuity, commercials, public service announcements, features, documentary, drama. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

COM 2230 Broadcast News Writing and Digital Editing Cr. 3

Theory and practice in broadcast news-writing, reporting, performing and editing. Writing Intensive course for broadcasting sequence in Journalism major. Offered Every Term.

Prerequisites: ((COM 1500 with a minimum grade of D-))

Course Material Fees: \$50

COM 2240 Forensics Practicum Cr. 1-2

Training and participation in debate and contest speaking. Offered Every Term.

Prerequisites: ((COM 2110 with a minimum grade of D-))

Repeatable for 6 Credits

COM 2250 South End Workshop Cr. 3

Students work in various editing, reporting, and photographic positions at student newspaper. Offered Every Term.

Prerequisites: ((COM 2100 with a minimum grade of D-))

COM 2260 Digital Writing and Research Methods Cr. 3

This course prepares students to participate intelligently and critically in the production and consumption of digital media. The course emphasizes fundamental writing and research skills. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 2280 Digital Photojournalism Cr. 3

Theory and practical application of photojournalism. Emphasis on journalistic visual storytelling, use of digital camera equipment, theory of photography, and presentation through social media. Students must provide a 35mm DSLR or mirrorless camera with manual capabilities. Offered Yearly.

Course Material Fees: \$50

COM 2290 Fundamentals of New Media Communication Cr. 3

Interdisciplinary introduction to the study of new media by way of an investigation of both theories and applications of emerging forms of communication. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 2310 Introduction to Web Design Cr. 3

Introduces students to the current methods and procedures utilized to effectively design and maintain web pages and websites using various CMS (content management system) platforms. Offered Fall.

Prerequisites: ((COM 1610 with a minimum grade of D-))

Course Material Fees: \$35

COM 2500 Oral Interpretation of Literature Cr. 3

Oral performance approach to literature, fusing voice, body and meaning in the reading aloud of poetry, prose, drama; interaction of reader, listener, and literature. Offered Biannually.

COM 3010 Media Analysis and Criticism Cr. 3

Formal properties and aesthetic considerations in media, especially film, television and interactive media. Offered Every Term.

Prerequisites: ([COM 1500 with a minimum grade of C])

Course Material Fees: \$10

COM 3100 Public Affairs Reporting Cr. 3

Advanced news reporting, focusing on governmental stories. Offered Every Term.

Prerequisites: ([COM 2100 with a minimum grade of C])

Course Material Fees: \$30

COM 3170 Fundamentals of Public Relations Cr. 3

Historical background of the profession of public relations; communication variables in public relations; emphasis on presentational techniques, publicity preparation and development of special events. Offered Fall, Spring/Summer.

Prerequisites: ([COM 1010 with a minimum grade of D-] OR [COM 2170 with a minimum grade of D-] OR [Oral Communication P=100/F=000 with a test score minimum of 100])

COM 3210 News Editing Cr. 3

Copy editing, headline writing, AP style, online and print news presentation, preparation for different news platforms. Journalism skills course. Offered Every Term.

Prerequisites: ([COM 2100 with a minimum grade of C])

Course Material Fees: \$15

COM 3230 The African-American Film Experience Cr. 4

Historical and contemporary portrayals of African American people in narrative and documentary film. Emphasis on filmic approaches to race relations, cinematic elaboration of racial stereotypes, and legitimation functions of film. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: AFS 3200

COM 3250 Introduction to Organizational Communication Cr. 3

Introduction to major theories and principles used to guide the effective practice of communication within organizations. Offered Fall, Winter.

COM 3280 Advanced Digital Photojournalism Cr. 3

News photo field trips with instructor; Photoshop editing for newspapers and magazines. Development of a portfolio. Offered Biannually.

Prerequisites: ([COM 2280 with a minimum grade of D-])

COM 3300 Business and Professional Presentations Cr. 3

Review and practice of various oral communication forms used in modern organizations. Topics include persuasive speaking, informative speaking, speech writing, multi-media presentations and business and report writing. Offered Every Term.

Prerequisites: ([COM 1010 with a minimum grade of D- and ENG 3010 with a minimum grade of C] OR [SPB 1010 with a minimum grade of D-])

Course Material Fees: \$10

COM 3380 Editing and Field Production Cr. 3

Theoretical, technical and creative storytelling processes of editing; development of technical competency in skills required for location production (camera, lighting, and sound). Offered Every Term.

Prerequisites: ([COM 1600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Film, Film Honors, Film Studies, Journalism, Journalism Honors, Media Arts and Studies or Media Arts and Studies Honors.

Course Material Fees: \$130

COM 3390 Producing and Directing Webisodes Cr. 3

The emerging genre of the webisodic series. Students work collaboratively as a production company throughout all aspects of pre-production, production, and post production of an online production. Offered Winter.

Prerequisites: ([COM 1600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Fine, Performing & Comm. Arts.

COM 3400 Theories of Communication Cr. 3

Exploration of the role of theory in describing, explaining and predicting human communication behavior in face-to-face and mediated contexts. Offered Every Term.

COM 3990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 4 Credits

COM 4010 Special Topics in Journalism Cr. 3

Special areas of interest, such as sports writing, business writing, columns and editorials. Offered Yearly.

Repeatable for 9 Credits

COM 4040 Diversity in Interpersonal Communication Cr. 3

Issues related to the study of interpersonal communication behaviors and patterns in different cultures. Offered Biannually.

Prerequisites: ([COM 2000 with a minimum grade of D-] OR [COM 3400 with a minimum grade of D-])

Equivalent: AFS 4040

COM 4041 Rhetoric and the Body Cr. 3

Humanistic analysis, research, and theory in how rhetoric of/about the human body intersects with broader social concerns (e.g., consumerism, gender, disease and health, and race). Offered Biannually.

COM 4100 Feature Writing Cr. 3

Advanced news reporting, focusing on feature writing. Offered Every Term.

Prerequisites: ([COM 3100 with a minimum grade of C])

Course Material Fees: \$30

COM 4110 Studies of Legal Argument Cr. 3

Uses of legal argument in a variety of fields and contexts. Different methods of studying argument will be examined. Offered Yearly.

Prerequisites: ([COM 2110 with a minimum grade of D-])

COM 4130 Communication Ethics Cr. 3

Issues of responsible communication in a variety of contexts including mass, organizational, and interpersonal communication. Offered Biannually.

Prerequisites: ([COM 2000 with a minimum grade of D-] OR [COM 3400 with a minimum grade of D-])

COM 4140 Popular and Celebrity Culture Cr. 3

Increasing significance of pop and celebrity culture in shaping cultural and political affairs. Modes of production and consumption of pop culture; understanding pop culture and its effects. Offered Yearly.

Prerequisites: ([COM 2000 with a minimum grade of D-] OR [COM 3400 with a minimum grade of D-])

COM 4150 Communication and Conflict Cr. 3

Examination of the dynamics and processes of conflict across contexts with a focus on communicative theories and practices. Focus on developing and applying assessment and management knowledge and skills to real-world situations. Offered Fall, Spring/Summer.

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4170 Public Relations Writing Cr. 3

Writing for public relations purposes: backgrounders, fact sheets, press releases; brochures and newsletters. Offered Fall, Winter.

Prerequisites: ((COM 2030 with a minimum grade of C)) AND ((COM 3170 with a minimum grade of C))

COM 4190 Rhetorical Criticism Cr. 3

An introduction to various methods of rhetorical criticism through analysis of texts and artifacts in terms of persuasion and adaptation to audiences. Offered Fall.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4200 Nonverbal Communication Cr. 3

Channels and functions of nonverbal communication; contexts include: gender, culture, adult-infant interaction, therapy. Methods of study. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

COM 4210 Research Methods in Communication Cr. 3

Quantitative and qualitative research methods designed to advance knowledge about human communication across applied settings and diverse contexts. Offered Every Term.

Prerequisites: (May be taken concurrently: [COM 1500 with a minimum grade of D-) OR [COM 2000 with a minimum grade of D-])

Repeatable for 9 Credits

COM 4240 African Americans in Television Cr. 4

Historical overview of African Americans in radio and television with emphasis on three areas of study: news and documentary; entertainment and advertising; and ownership, employment and access. Offered Yearly.

Equivalent: AFS 4240

COM 4250 Reporting Race, Gender, and Culture Cr. 3

Issues of gender, culture and race in media coverage, with some content analysis. Preparation for students to handle this content with sensitivity and accuracy. Offered Every Term.

Prerequisites: ((COM 2100 with a minimum grade of D-))

COM 4270 Group Communication Cr. 3

Theory, research, and practice in group processes and problem-solving in small groups within professional contexts. Offered Biannually.

COM 4300 Intercultural Communication Cr. 3

Culture-general instruction in intercultural communication skills and theory. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

COM 4310 Audio Production Cr. 3

Theory and practice in sound production techniques and experimentation with creative audio production. Offered Every Term.

Prerequisites: (May be taken concurrently: [COM 1600 with a minimum grade of D-]) AND (May be taken concurrently: [COM 2210 with a minimum grade of D-] OR [COM 2230 with a minimum grade of D-])

Course Material Fees: \$90

COM 4410 Television Production Cr. 4

Theory and practical application of techniques used in television production; use of graphic materials, design and staging concepts, lighting techniques and studio operation; the role of the television producer-director. Offered Every Term.

Prerequisites: (May be taken concurrently: [COM 1600 with a minimum grade of D-]) AND (May be taken concurrently: [COM 2210 with a minimum grade of D-] OR [COM 2230 with a minimum grade of D-])

Course Material Fees: \$90

COM 4500 Leadership Communication Cr. 3

Theory and application of leadership processes in for-profit and nonprofit organizations. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4560 Telecommunications Policy: A Political Economy Approach Cr. 3

Introduction to both the process of developing telecommunications policies and the impact of these policies with particular reference to the United States. Offered Winter.

Prerequisites: ((COM 1500 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4680 WAYN Radio Cr. 2

Participation in WAYN on-line radio. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4990 Directed Study Cr. 1-3

Supervised individual research. Offered Every Term.

Prerequisite: COM 2100 with a minimum grade of D-

Repeatable for 4 Credits

COM 4996 Senior Honors Thesis Cr. 3

Overview of theory and research in communication; closely supervised research project that results in a paper of approximately twenty pages. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Senior.

COM 4997 Senior Assessment Essay in Film Studies Cr. 1

Preparation of formal paper demonstrating knowledge of methods of film analysis, film history, and film theory. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Interdisciplinary Film Studies.

COM 5010 History of Communication Technologies Cr. 3

Traces the historical development of communication technologies, industry players and government policies, and assesses impact of the technologies in their historical context. Offered Yearly.

Prerequisites: ((COM 1500 with a minimum grade of D-))

Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.

COM 5020 Studies in Film History Cr. 3

Analysis of the development of a specific film genre, a director, or other historical aspect of the motion picture. Topics to be announced in Schedule of Classes. Offered Yearly.

Prerequisite: COM 2010 with a minimum grade of D- or ENG 2450 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television; enrollment is limited to Graduate or Undergraduate level students.

Course Material Fees: \$20

Repeatable for 12 Credits

COM 5040 Cultures and Rhetorics Cr. 3

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. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D- and COM 2000 with a minimum grade of C) OR [COM 3400 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 5050 Special Topics Cr. 3

Selected topics in communication to be announced in the Schedule of Classes. No more than six credits may be elected in this special topics course in any graduate degree program Offered Irregularly.

Repeatable for 9 Credits

COM 5060 Documentary and Non-Fiction Film and Television Cr. 4

Study of the non-fiction film made for a social, cultural, or political purpose; screening and analysis of selected films. Offered Yearly.

Prerequisites: ((COM 2010 with a minimum grade of D-) OR [COM 2450 with a minimum grade of D-] OR [SPB 2010 with a minimum grade of D-])

Course Material Fees: \$20

COM 5080 History and Law of American Journalism Cr. 3

History of journalism and the structure of the industry in America, including all media; emphasis on development of law relating to communication and changing understanding of the First Amendment. Offered Every Term.

COM 5120 Public Address Cr. 3

Landmark moments of public address. What constitutes public address; relevance of public address studies. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 5130 Communication and Social Marketing Cr. 3

Principles of social marketing; student-driven group project. Offered Fall, Spring/Summer.

Prerequisites: ((COM 4210 with a minimum grade of D-))

COM 5140 Public Relations and Social Media Cr. 3

Examines social media strategies and how they can be constructed, implemented and evaluated in the context of public relations planning. Offered for undergraduate credit only. Offered Winter.

Prerequisites: (May be taken concurrently: [COM 3170 with a minimum grade of D-])

COM 5160 Public Relations Campaigns and Issues Management Cr. 3

Capstone course for public relations majors. Management functions of public campaigns: developing objectives, strategic planning, issues management, budgeting. Blends theoretical concepts with their professional and practical applications; emphasis on public relations planning and evaluation. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ((COM 3170 with a minimum grade of C) AND ((COM 4170 with a minimum grade of C))

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 5180 Family Communication Cr. 3

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. Offered Yearly.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

COM 5190 Senior Seminar in Communication Cr. 3

Advanced study of theory and research in communication studies. Topics to be announced in schedule of classes. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Senior.

Repeatable for 6 Credits

COM 5250 Professional Issues in News Media Management Cr. 3

Capstone course for journalism majors; must elect in last 21 credits before graduation. Ethics and management structure and practices of media organizations. Individual research projects. Offered Yearly.

Prerequisite: COM 2230 with a minimum grade of D- or COM 4100 with a minimum grade of D-

COM 5270 Screenwriting Cr. 4

Principles and techniques of writing for motion pictures. Analysis and study of professionally written scripts. Exercises in writing dramatic and non-fiction screenplays. This course fulfills the Writing Intensive Requirement for the Film major. Offered Yearly.

Prerequisite: COM 2210 with a minimum grade of D-

Course Material Fees: \$10

Repeatable for 8 Credits

COM 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. Offered Fall.

COM 5300 Layout and Design Cr. 3

Practical skills course in publishing newsletters, magazines, newspapers and books; emphasis on new computer technology, desktop publishing; business aspects of publishing, including printing, promotion and marketing; skills in use of personal computer for publishing. Offered Irregularly.

Prerequisite: COM 2100 with a minimum grade of D-

Course Material Fees: \$30

COM 5310 Investigative Reporting Cr. 3

Advanced reporting techniques involving use of Freedom of Information Act and computer-assisted data base searches; accessing public records. Offered Irregularly.

Prerequisite: COM 4410 with a minimum grade of D- or COM 5381 with a minimum grade of D-

COM 5320 Health Communication Cr. 3

Communication demands of health care and health promotion; current communication issues and problems in modern health care systems; identification of communication strategies for health care consumers and providers. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

COM 5330 Rhetoric of Visual Culture Cr. 3

Influence that vision and visual texts have in our culture. Critical examination of such texts, including photography, museums, monuments, the fashion industry, tattoos and body marking. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D-) OR [COM 3400 with a minimum grade of D-])

COM 5350 Media Arts Production Cr. 3

Key components of production for electronic media (field, audio, and television production). Production techniques, aesthetic understanding, directing skills. No credit after COM 5380 or COM 5400. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$100

COM 5360 Gender and Communication Cr. 3

Analysis of gender communication issues within interpersonal, group, organizational, intercultural, public, and mass mediated contexts. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ((COM 2000 with a minimum grade of D-))

Equivalent: GSW 5360

COM 5370 Social Science Theories of Persuasion Cr. 3

Theories of persuasion in communication; how theories can be applied to help solve communication-based social problems. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ([COM 2000 with a minimum grade of D-] OR [COM 3400 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 5380 Video Field Production and Editing Cr. 3

Theory and practical application of video location production and post-production techniques. Digital non-linear editing and post-production software as used in creative development of original content. Offered Winter.

Prerequisites: (May be taken concurrently: [COM 1600 with a minimum grade of D-] OR [COM 5350 with a minimum grade of D-]) AND (May be taken concurrently: [COM 2210 with a minimum grade of D-])

Course Material Fees: \$100

COM 5381 TV News Reporting and Digital Editing Cr. 3

Theory and practical application of aesthetics and journalistic values of TV news and feature storytelling. Emphasis on planning, location video and sound protection, editing, interviewing, writing skills, on-camera presentation. Offered Yearly.

Prerequisite: COM 2230 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Journalism, Journalism Honors, Media Arts and Studies or Media Arts and Studies Honors.

Course Material Fees: \$125

COM 5384 Topics in Production Design and Theory Cr. 3

Theory and practical application in the aesthetic and technical considerations of production design. Topics may include: cinematography/lighting, sound design/mixing, experimental film/video, performance production, documentary preproduction, film/video graphic design. Offered Spring/Summer.

Prerequisite: COM 5380 with a minimum grade of D- or COM 4310 with a minimum grade of D- or COM 5350 with a minimum grade of D-

Course Material Fees: \$100

Repeatable for 6 Credits

COM 5390 Digital Animation Cr. 3

Introduction to animation techniques, 2D to 2-1/2D to 3D; includes use of Adobe products such as After Effects. Discussion of alpha channels, masks, rotoscoping, layering, keyframe and behavioral-based animation. Offered Winter.

Prerequisites: ([COM 1600 with a minimum grade of D-] OR [COM 5350 with a minimum grade of D-])

COM 5400 Techniques of Film and Video Production Cr. 4

Capstone course option for majors in Media Arts and Studies; should be taken in last 21 credits of program. Experience with the preparation, shooting and editing of video projects in film-style production. Offered Every Term.

Prerequisite: COM 3380 with a minimum grade of D- or COM 5380 with a minimum grade of C

Course Material Fees: \$125

COM 5410 Producer's Workshop Cr. 3

Examination of the business, managerial, and creative considerations and process of producing media programming from conception through distribution. Offered Yearly.

Prerequisites: ([COM 3380 with a minimum grade of D-] OR [COM 3390 with a minimum grade of D-] OR [COM 5380 with a minimum grade of D-] OR [COM 5381 with a minimum grade of D-] OR [AIN 3220 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.

Course Material Fees: \$35

COM 5420 Director's Workshop Cr. 3

Organization and execution of the film and video director's tasks through production of a major creative project. Offered Yearly.

Prerequisite: COM 5400 with a minimum grade of D-

Course Material Fees: \$125

Repeatable for 6 Credits

COM 5440 Film, Cinematography and Lighting Cr. 4

An immersion into the cinematic practices and applied theory of film and digital cinema including the art and technology of cinematography, lighting design, and non-linear post-production. Students will apply an understanding of exposure and color temperature control, workflow management, NLE systems and color grading to the creation of short cinematic works designed for their portfolios and for exhibition. Offered Biannually.

Prerequisite: COM 5400 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.

Course Material Fees: \$125

COM 5460 Magazine Writing Cr. 3

Advanced feature writing: preparation of magazine features. Students focus on limited number of in-depth articles. Research, structure and writing techniques to produce publishable magazine-length articles. Offered Yearly.

Prerequisite: COM 4100 with a minimum grade of D-

COM 5480 Special Topics in Media Studies Cr. 3

Topics may include: studies and practices in media management, legal issues in media, media and globalization, new digital platforms. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors or Radio and Television.

Course Material Fees: \$20

Repeatable for 12 Credits

COM 5500 Journalism and New Media Cr. 3

Theory and practical application of publishing journalistic works via new media. Emphasis on best practices and techniques of using social media for news coverage. Offered Yearly.

Prerequisite: COM 2100 with a minimum grade of D-

Course Material Fees: \$30

COM 5510 Societal Effects of New Technologies Cr. 3

Capstone course; must elect in last 21 credits prior to graduation. Discusses the societal impact of traditional mass media and the evolving interactive technologies of computers and mobile networks as well as emerging technologies such as robotics. Offered Yearly.

Prerequisite: COM 1500 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Communication, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors or Radio and Television.

COM 5540 Film Criticism and Theory Cr. 3

Introduction to the major classical and contemporary theoretical and critical approaches to the study of film and screen arts, inclusive of Third Cinema theory, in a globalized, multi-screen media environment. Offered Fall.

Prerequisites: (2 of COM 2020, COM 3010, COM 3230, AFS 3200, COM 3400)

COM 5600 Strategic Communication in Nonprofit and the Arts Organizations Cr. 3

An introduction to strategic communication theory and practice as it applies to non-profit organizations. Includes working with arts organizations to determine their public relations needs and developing a strategic communication campaign that addresses those objectives. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

COM 5610 Advanced TV Production Cr. 3

Students work on producing live, recorded TV programs and work on a professional-style TV production crew. Positions include technical director, teleprompter operator, producers, audio, lighting, staging/set construction personnel, camera operators, editors. Offered Fall, Winter.

Prerequisite: COM 4410 with a minimum grade of C- or COM 5381 with a minimum grade of C-

Course Material Fees: \$135

Repeatable for 6 Credits

COM 5700 Political and Governmental Reporting Cr. 3

Covering politics, governmental and public affairs in the media. Offered Yearly.

COM 5900 Senior Project in Communication Studies Cr. 3

Combination of lectures and workshops to assist students in carrying out a service learning or individual research project. Offered for undergraduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Communication Studies or Communication Studies Honors; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts degree.

COM 5993 Writing Intensive Course Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. No degree credit. Required for all Film Studies majors. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

COM 6060 Teaching Communication at the Secondary Level Cr. 3

Philosophy, pedagogical issues, and methods for teaching speech in secondary schools. Offered Biannually.

COM 6070 Directing Forensics Cr. 3

Philosophy and methods of directing high school and college forensics programs; techniques of coaching for debate, oratory, extempore speaking and other reading and speaking contests. Offered Biannually.

COM 6100 Speech Writing Cr. 3

Preparation and presentation of speech manuscripts. Emphasis on style of writing, use of supporting materials and factors of interest. Special problems of ghost-writing considered. Offered Biannually.

COM 6140 Public Relations Theory Cr. 3

This course provides a foundational grounding in public relations theories and examines them in different communication contexts, including mediated, crisis, and international. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

COM 6180 Principles of Health Communication Cr. 3

Graduate survey of theory, research and practice in communication; emphasis on collaborative patient-provider interactions and health campaigns. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

COM 6190 Internship Cr. 1-3

On-the-job observations and work experience in business, service, social, governmental, and industrial organizations. Emphasis on journalism, public relations, and organizational communication. Offered Every Term.

Repeatable for 6 Credits

COM 6200 Theories of Small Group Processes Cr. 3

Theory and research on communication in the small, task-oriented group. Offered Fall.

COM 6220 Dispute Resolution and Communication Technology Cr. 3

Conflict in online environments; development of Online Dispute Resolution (ODR). Hands-on work with state-of-the-art ODR technologies via several simulations. Offered Biannually.

COM 6250 Organizational Communication Cr. 3

Theoretical review of the structure process and function of communication within and between organizations. Analysis of current and emerging issues in the theory and research of organizational communication. Offered Fall.

COM 6270 New Media Theory Cr. 3

Analysis of new media and interactive communication processes. Emphasis on critical theory and cultural studies in relation to interpersonal, group and organizational contexts. Research projects. Offered Yearly.

COM 6280 Reporting on Diversity Cr. 3

Recognition and acceptance of differences in culture, ethnicity, gender, and alternative lifestyles; sensitivities in writing and publishing; for students intending careers in the media. Offered for graduate credit only. Offered Yearly.

COM 6310 Allesee Lectures in Media Cr. 1

Through public lectures, screenings and discussion sessions, this course provides critical and analytical approaches to the study of work by leading artists, professionals and/or scholars in the fields of film, media arts, or broadcast journalism. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment limited to students in the Fine, Performing & Comm. Arts.

Repeatable for 3 Credits

COM 6350 Communication, Culture, and Conflict Cr. 3

Overview of communication theory and practice as it relates to issues of culture, conflict and dispute resolution. Offered Fall.

COM 6410 Allesee Master Class Cr. 1-3

The Allesee Master Class provides students the opportunity to work with leading artists, professionals, and/or scholars in the fields of film, media arts, or broadcast journalism develop and refine professional and creative skills in a production environment. Offered Yearly.

Repeatable for 6 Credits

COM 6510 Michigan Creative Film Alliance Cr. 3

Production company. Students develop expertise and gain experience in professional film practices while collaborating in the off-campus planning, production, promotion and distribution of significant film/media projects. Offered in conjunction with Michigan State University and University of Michigan. Offered Irregularly.

Repeatable for 6 Credits

COM 6530 Audience Measurement and Survey Techniques Cr. 3

Theory and application of quantitative and qualitative research techniques in surveying audiences for electronic media. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 6680 Directed Projects in Film and Media Cr. 1-3

Advanced individual projects. Offered Every Term.

Prerequisite: COM 5400 with a minimum grade of D-

COM 7000 Introduction to MA Studies in Communication Cr. 3

Fundamentals of scholarly research and writing at the graduate level. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7010 Special Topics Cr. 3

Selected topics in communication to be announced in the Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

COM 7011 Intro: Professional Practices in Media Cr. 3

Bridge course for new MA students who do not have a professional background or undergraduate degree in journalism or public relations. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7040 Language and Power Cr. 3

Ways in which language is used as a device of oppression and liberation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7110 Theory of Argument Cr. 3

Advanced studies in argumentation, including the structure of reasoning, the organization of arguments, strategies of argument, and the nature of proof. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7120 Contemporary Political Campaigns Cr. 3

Study of methods for analyzing political campaigns; a critical evaluation of presidential campaigns from 1960 to the present. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

COM 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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7140 Public Relations Campaigns and Issues Management Cr. 3

Management functions of public relations campaigns: developing objectives, strategic planning, issues management, budgeting. Blends theoretical concepts with their professional and practical applications; emphasis on prominent critical rhetorical approaches to public relations planning and evaluations. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7150 Micro-Level Organizational Communication Cr. 3

Communicative processes and behaviors that affect individuals in organizations; quality and quantity of workplace communication at dyadic and group levels. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7155 Theories of Interpersonal Communication Cr. 3

Survey of theory and research on interpersonal interaction, with special emphasis on social perception, self-presentation, and the formation of relationships in interaction. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7160 Crisis Communication Cr. 3

Theoretical and case-study approach to communicative aspects of organizational crisis management. Topics include post-crisis response, crisis sensing, crisis planning. Offered Biannually.

Prerequisite: COM 6250 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 7165 Communication and Issue Management Cr. 3

Theoretical and case study approach to management of public policy issues facing organizations. Topics include: public relations, issue monitoring, environmental uncertainty. Offered Biannually.

Prerequisite: COM 6250 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 7170 Health Communication Cr. 3

Theory and research in health communication; issues of patient-provider communication and health campaigns. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7190 Classical Rhetorical Theory Cr. 3

Critical analysis of the Sophists, Plato, Aristotle, Cicero, and others on rhetoric. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7200 Rhetoric of Visual Culture Cr. 3

Critical analysis of symbolic and performative dimensions of visual culture. Theoretical and material force of photography, architecture, landscape, museums, public memorials, and others. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7210 New Media and Strategic Communication Cr. 3

Fundamental theories and practical applications of social media, and its strategic use in public relations and professional communication. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7220 Professional Issues in Applied Communication Cr. 3

Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7240 Communication Consulting and Training Cr. 3

Theoretical and pragmatic approaches to the design and implementation of strategic communication changes in organizations. Topics: role of change, change strategies, behavioral and structural change, design of communication audits, communication training methods, and relations with client organizations. Offered Biannually.

Prerequisite: COM 6250 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 7250 Rhetorical Criticism Cr. 3

Principles of criticism as applied to public address; analysis of standards and methods of evaluation; readings in modern criticism of public address. Research project. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7260 Quantitative Research Methods in Communication Cr. 3

Methods of data collection and analysis in communication research, approaches to measurement, research design, and other quantitative methods of communication research. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7270 Advanced Screenwriting Cr. 4

Research and writing for creation of full-length dramatic or documentary film and television scripts. Offered Yearly.

Prerequisite: COM 5270 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

COM 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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7290 Contemporary Rhetorical Theory Cr. 3

Exploratory analysis of a broad spectrum of recent works relevant to the art of discourse. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7300 Feminist Rhetorical Criticism Cr. 3

Investigation of philosophical and practical issues inherent in feminist approaches to rhetorical theory and criticism. Offered Biannually.

Prerequisite: COM 7250 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 7330 Advanced Layout and Design Cr. 3

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. Offered Irregularly.

Prerequisite: COM 5300 with a minimum grade of C and COM 5500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

COM 7340 Interviewing Cr. 3

Theory and research on interviewing across a range of contexts. Topics include: constructing questions and protocols, listening, role, self-presentation, social understanding. Contexts may include screening, counseling, legal, journalism and research. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7360 Qualitative Research Methods in Communication Cr. 3

Theoretical bases of qualitative research in communication and the development of skills in conceptualizing/designing qualitative research projects in communication, gathering data, analyzing data (using online software), and writing qualitative research. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7365 Ethnographic Methods for Communication Research Cr. 3

Design, implementation and evaluation of ethnographic and participant/observation research studies in communication. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7380 Advanced Media Editing Cr. 3

Principles of video and film editing; exercises and assignments covering pace, meaning, special effects; styles of editing related to genres; non-linear editing software programs. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

COM 7410 Communication Theory Cr. 3

Systematic analysis of major twentieth century theories of communication, with a discussion of their historical and philosophical foundations. Discussion and critical review of recent developments in communication theory. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7420 Seminar in Directing Film and Video Cr. 4

Research and production of film and videotapes for professional distribution and exhibition. Offered Fall, Winter.

Prerequisite: COM 5420 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$125

COM 7500 Seminar in Mass Media Cr. 3

Advanced topics in mass communication theory and research. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

COM 7510 Seminar in Research Methods Cr. 3

Advanced and focused methods of research in communication, journalism and media studies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

COM 7520 Theories of Media Effects Cr. 3

Survey of research and theory in mass communication effects on individuals and social systems. Processes of mass media influence; role of mass communications in society. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

COM 7530 Critical Mass Communication Theory Cr. 3

Foundational readings and concepts; theoretical perspectives of critical theory and cultural studies. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7580 Content Analysis Cr. 3

Theory and practice in quantitative techniques for analyzing texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7610 Feminist Media Theory and Criticism Cr. 3

History of feminist film and television theory and criticism since the 1970s; methods for textual analysis, the theories that inform these methods, and media scholarship other than textual analysis. Offered Biannually.

Prerequisite: COM 7590 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 7700 Mass Media and Political Communication Cr. 3

Mass media research methods for political communication studied and applied. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7810 Seminar in Communication Education Cr. 3

Philosophy and approaches to teaching communication on the college level. Topics include objectives, evaluation, motivation and teaching strategies. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

COM 7840 Studies in Communication Education Cr. 3

Research in communication education: issues, trends and controversies as reflected in major journals. Offered Irregularly.

Prerequisite: COM 7810 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 7990 Directed Study: MA Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

COM 7991 Directed Study: PhD Cr. 1-4

Research in major field for advanced graduate students. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

COM 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

COM 8000 Introduction to PhD Studies Cr. 3

Introduction to perspectives, approaches and methods of communication research. Required during first term of Ph.D. study in the Communication Department. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 8170 Seminar in Interpersonal Communication Cr. 3

Various topics in interpersonal communication. Taught on a term-specific basis; see Schedule of Classes for current offerings. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

COM 8290 Seminar in Communication Studies Cr. 3

Advanced topics in communication and rhetorical theory. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

COM 8350 Advanced Study in Rhetorical Criticism Cr. 3

Study of important decisions in rhetorical criticism; two critical projects refined throughout the term in context of critical process, perspectives and approaches. Offered Biannually.

Prerequisite: COM 7250 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

COM 8520 Seminar in Film Cr. 3

Topics vary with instructor. Consult the Departmental office. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

COM 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Prerequisite: COM 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Prerequisite: COM 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Prerequisite: COM 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

CRJ - CRIMINAL JUSTICE

CRJ 1010 Introduction to Criminal Justice Cr. 4

Scientific method and multidisciplinary approach to administration, procedures, and policies of agencies of government charged with enforcing the law, adjudicating crime, and correcting criminal and deviant conduct. Response of justice system to social norms and trends; reciprocal relationship to social behaviors and values. No credit after former CRJ 2000. Offered Every Term.

CRJ 3110 Domestic Violence and Criminal Justice Cr. 4

Emotional, physical, and sexual abuse in domestic relationships. Topics include: theories of violence, law, and the response of the justice system. No credit after former CRJ 4750. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3120 Politics of the Criminal Justice Process Cr. 4

Political aspects of criminal justice; politics of crime legislation, police function, prosecution, adjudication, and corrections; Federal role in criminal justice. Offered Irregularly.

Equivalent: PS 3120

CRJ 3200 Police and Society Cr. 4

Overview of policing. Topics include: social and historical origins of policing, police culture, organizational structure of policing, future of policing. No credit after former CRJ 4600. Offered Every Term.

Prerequisite: CRJ 1010 with a minimum grade of D-

CRJ 3260 Investigation Cr. 3

Overview of the history of criminal investigation, the functions of police investigators, crime scene search and evidence processing, an introduction to criminalistics, locating and interviewing witnesses, examining the elements of proof required in specific criminal offenses and interrogation techniques (pre- and post-Miranda). Offered Every Term.

CRJ 3350 Corrections Cr. 4

Description and analysis of legal, social and political issues affecting contemporary correctional theory and practice. Topics include: history of corrections; function and social structure of correctional institutions; institutional alternatives including diversion, probation and parole. Field trips to institutions and community correctional settings may be offered. No credit after former CRJ 4300. Offered Every Term.

Prerequisite: CRJ 1010 with a minimum grade of C-

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: SOC 3840

CRJ 3400 Juvenile Delinquency and Justice Cr. 4

Overview of the theoretical background, structure, and processes of contemporary juvenile justice, as well as the correlates and characteristics of delinquency. No credit after former CRJ 4410. Offered Every Term.

Prerequisite: CRJ 1010 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3550 Research Methods in Criminal Justice Cr. 4

Overview of research design and methodology; criminal justice data sources; designs for research; and introduction to descriptive and inferential statistics in criminal justice. No credit after former CRJ 4860. Offered Every Term.

Prerequisite: CRJ 1010 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3700 The Judicial Process Cr. 4

Structure, powers, doctrines and judicial processes including origin, nature and functions of judicial review in the criminal justice system. Offered Every Term.

Prerequisite: CRJ 1010 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3710 Legal Writing for Criminal Justice Cr. 4

Basic elements of legal research; the law library and finding the law; case analysis; statutory analysis; constitutional analysis; writing legal memorandums; writing legal briefs; persuasive writing. Offered Every Term.

CRJ 3750 Diversity in Criminal Justice Cr. 4

Critical examination of gender, race, class, and ethnicity issues in criminal justice; impact on defendants, inmates, victims, and criminal justice personnel; relation to policy issues. Offered Winter.

Equivalent: GSW 3750

CRJ 3800 Criminological Theories Cr. 4

Delineation, review, and critical analysis of major explanations of criminality including biological, psychological, deterrence, rational choice, learning and integrated theories. Offered Fall, Winter.

Prerequisite: CRJ 1010 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 4220 Criminalistics Cr. 4

Application of the physical and biological sciences to criminal investigation; ballistics, fingerprints, DNA, trace evidence, drugs, arson and explosives, questioned documents, introduction to forensic anthropology, courtroom testimony, ethics. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

CRJ 4310 Correctional Counseling Methods Cr. 3

Application of causal theories to counseling strategies. Models for offender classification and treatment. Counselor attitudes and styles. Special issues in the treatment of delinquents. Individual and group models for counseling. Evaluation models to assess counseling effectiveness. Offered Winter.

Prerequisite: CRJ 3400 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 4700 Criminal Law Cr. 4

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. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 4740 Constitutional Criminal Procedure Cr. 4

Topics include: constitutional safeguards, role of the Supreme Court, due process, search and seizure of persons and property, self-incrimination and confessions, right to counsel, and pre-trial and trial processes. Offered Every Term.

Prerequisite: CRJ 1010 with a minimum grade of D-

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

CRJ 4800 Outsiders and Deviants Cr. 4

Definition and characteristics of behaviors which have, at times, been considered deviant, such as: criminality, mental illness, alcoholism, drug addiction, abortion, prostitution, and pornography. Interdisciplinary theories introduced to facilitate understanding of those behaviors, their diagnosis, management, control, and prevention. Offered Every Term.

Equivalent: SOC 4800

CRJ 4970 Internship in Criminal Justice Cr. 3

A program of participation and study designed to give students the opportunity to interact with criminal justice professionals in the workplace. Internship opportunities are available in the courts, corrections, law enforcement, and other agencies. Offered Every Term.

Prerequisites: ([CRJ 1010 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major in Criminal Justice; enrollment is limited to Undergraduate level students.

Equivalent: US 6000

CRJ 4990 Directed Study Cr. 1-3

Independent reading or research in a particular facet of criminal justice, culminating in an extended paper or research report prepared under direct supervision of faculty. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 3 Credits

CRJ 4998 Honors Thesis in Criminal Justice Cr. 3-6

Research problem to be completed under the direction of a faculty member. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Criminal Justice or Criminal Justice Honors; enrollment is limited to Undergraduate level students.

CRJ 5500 Child Abuse and Neglect Cr. 3

Dynamics and psychopathology of child abuse: its incidence and impact on delinquent/criminal behavior, family, community, and the criminal justice system. Offered Fall.

Prerequisites: ([CRJ 4410 with a minimum grade of D-])

CRJ 5810 Law in Human Society Cr. 3

Law and the legal structure in its social context. 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. Offered Yearly.

Equivalent: SOC 5810

CRJ 5993 Writing Intensive Course in Criminal Justice Cr. 0

Disciplinary writing assignments under the direction of the instructor for CRJ 3800. Satisfies the University General Education Writing Intensive Course in the Major requirement. Students must submit and endorse the Writing Intensive (CRJ 5993) Contract stating the departmentally-approved requirements of the research writing project. Offered Every Term.

Prerequisites: (May be taken concurrently: [CRJ 3800 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 5994 Dispute Resolution Cr. 3

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Every Term.

Equivalent: PCS 5000, PS 5890, PSY 5710

CRJ 5995 Special Topics in Criminal Justice Cr. 3

Selected topics in criminal justice issues. Maximum 6 credits for CRJ majors. Offered Irregularly.

Prerequisites: ([CRJ 1010 with a minimum grade of D-])

Repeatable for 9 Credits

CRJ 5996 Special Topics in Criminology Cr. 3

Special criminology topics. Maximum 6 credits for CRJ majors. Offered Every Term.

Prerequisites: ([CRJ 1010 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 9 Credits

CRJ 5997 Special Topics in Law and the Legal System Cr. 3

Analysis of selected topics in the law and the legal system. Maximum six credits allowance for CRJ majors. Offered Irregularly.

Prerequisite: CRJ 1010 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 9 Credits

CRJ 7010 Contemporary Criminal Justice Cr. 3

Survey of classic literature and important contemporary studies of all major facets of criminal justice system, including law, police, prosecution, defense, judiciary, probation, corrections, and parole. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7020 The Nature of Crime Cr. 3

Definition and measure of crime, crime statistics, types of criminal behavior; focus on causes of crime in context of various theoretical perspectives. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7200 Public Policy and Criminal Justice Cr. 3

Analysis of interrelationship of criminal justice system components and the political setting surrounding the formulation and administration of public policies for crime control. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7220 Delinquency and Justice Cr. 3

Empirical research on institutions which influence delinquency, including families, peers, and schools. Empirical and conceptual evaluation of delinquency theories; focus on their relationship to juvenile justice and policy. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7230 Policing and Society Cr. 3

Critical examination of role of police in contemporary society. Seminar topics include: history, culture, and social and organizational context of policing; current issues and future directions. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7240 Corrections Cr. 3

Legal, social, and political issues in both institutional and community corrections. Topics may include incarceration trends, penal philosophy, sanctions, community-based corrections, overcrowding, and related issues. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7400 Data Management and Analysis for Criminal Justice Cr. 3

Basic techniques for accessing and managing criminal justice-related data, introduction to quantitative analysis, and introduction to program evaluation. Contemporary data analysis tools in criminal justice. Offered Winter.

Prerequisite: CRJ 7860

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7405 Wrongful Conviction Cr. 3

Causes and incidence of wrongful convictions; innocence movement; psychological and social consequences for exonerees and crime victims; exoneree compensation; legal and policy reforms to reduce wrongful convictions in policing, forensic science, prosecution, and adjudication. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7860 Research Methods in Criminal Justice Cr. 3

Focus on logic of research designs, sampling techniques, data collection, instrument construction, available data sources in the field of criminal justice. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7870 Master's Capstone Seminar in Criminal Justice Cr. 3

Students write essays demonstrating their knowledge and critical analysis of criminological and criminal justice theory, research methods, and public policy issues. Offered Fall, Winter.

Prerequisite: CRJ 7010 with a minimum grade of B- and CRJ 7020 with a minimum grade of B- and CRJ 7860 with a minimum grade of B-

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7990 Directed Study Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 3 Credits

CRJ 7995 Special Topics in Criminal Justice and Criminology Cr. 3

Specialized topics in criminal justice. Topics may vary from semester to semester. May be repeated for a maximum of nine credits when subject matter differs. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

CRJ 7999 Master's Essay Direction Cr. 3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

CRJ 8999 Master's Thesis Research and Direction Cr. 3,6

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 6 Credits

CSC - COMPUTER SCIENCE

CSC 0900 Office Applications Cr. 0

Self-paced course provides instruction in the Microsoft Office Application software at both introductory and advanced levels; software covered includes Word, Excel, and Power Point. Offered Every Term.

Course Material Fees: \$25

CSC 0995 Co-op or Internship in Computer Science Cr. 0

Review of computer science practical experiences resulting from participation in coop/internship program. Offered Every Term.

CSC 1000 Introduction to Computer Science Cr. 3

Provides an overview of current computing technology, organization, and use. Topics surveyed include data representation and storage, hardware and software organization, communications technologies, ethical and security issues. Provides hands-on training in common application software, such as word processing, spreadsheets, presentation, as well as in electronic telecommunications, such as e-mail, Internet and database searches. The University database and Internet pages are emphasized. Offered Every Term.

Course Material Fees: \$35

CSC 1002 Personal Digital Security Cr. 3

Students learn how to reduce exposure to risks and how to identify, assess and repair infected devices. Offered Every Term.

CSC 1050 Introduction to C and Unix Cr. 2

Introduction to Unix, Unix editor, and C Programming Language. Unix development tools and fundamentals of C language discussed. No credit for computer science students after CSC 1100. Offered Every Term.

Prerequisite: MAT 1800 with a minimum grade of C

Course Material Fees: \$35

CSC 1100 Problem Solving and Programming Cr. 3

Problem solving with algorithms, and their realization as computer programs using a structured, general purpose programming language; data types, operators, expressions, assignment, input and output, selection and repetition control structures; modularity and procedural abstraction using functions with parameters; structured data types, arrays, pointers and strings. Offered Every Term.

Prerequisites: ((CSC 1000 with a minimum grade of C) OR [Computer Literacy P=100/ F=000 with a test score minimum of 100])

Corequisite: CSC 1101

CSC 1101 Problem Solving and Programming Laboratory Cr. 1

Mandatory two-hour closed laboratory; discussion of lecture materials and completion of hands-on exercises. Implementing programs using a general purpose programming language; software resulting from this can be used in more advanced computer science courses. Offered Every Term.

Prerequisites: ((CSC 1000 with a minimum grade of C) OR [Computer Literacy P=100/ F=000 with a test score minimum of 100])

Corequisite: CSC 1100

Course Material Fees: \$35

CSC 1500 Fundamental Structures in Computer Science Cr. 3

Introduction to fundamental control and data structures in computer science such as algorithms and complexity; recursive algorithms; program correctness using the predicate calculus; reasoning about algorithms using mathematical induction; divide and conquer algorithms; recurrence relations; set properties and their computation; and computing with relations. Graph properties and their computation, and tree properties and their computation, will be covered if time permits. Offered Every Term.

Prerequisites: ((CSC 1100 with a minimum grade of C) AND ((CSC 1101 with a minimum grade of C) AND ((MAT 2010 with a minimum grade of C-)))

Corequisite: CSC 1501

CSC 1501 Fundamental Structures in Computer Science Lab Cr. 1

Discussion and supervised hands-on exercises to complement CSC 1500. Offered Every Term.

Corequisite: CSC 1500

Course Material Fees: \$35

CSC 2000 Introduction to C++ Programming Language Cr. 3

Elements of C++; arrays, pointers and references; operators; classes and objects. No credit for Computer Science majors. Offered Every Term.

Prerequisites: ((MAT 1800 with a minimum grade of C-) OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 30000-99999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 30000-99999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 30000-99999] OR [MAT 2010 with a minimum grade of C-])

Course Material Fees: \$35

CSC 2110 Computer Science I Cr. 3

Rigorous introduction to fundamental object-oriented concepts and techniques of computer programming using an object-oriented language. Introduction to data abstraction; design of abstract data types. Introduction to recursion; programming with generic data types; inheritance; polymorphism; and exception handlers. Concepts applied to console programs and event-driven programming using a simple graphics API. Offered Every Term.

Prerequisites: ((CSC 1100 with a minimum grade of C) AND ((MAT 2010 with a minimum grade of C-)))

Corequisite: CSC 2111

CSC 2111 Computer Science I Lab Cr. 1

Mandatory two-hour supervised lab; hands-on exercises to complement CSC 2110. Object-oriented techniques in a general-purpose object-oriented programming language. Resulting software may be used in more advanced computer science courses. Offered Every Term.

Corequisite: CSC 2110

Course Material Fees: \$35

CSC 2200 Computer Science II Cr. 3

Design and implementation of fundamental abstract data types of computer science (such as stacks, queues, trees, lists, hashing, and graphs), using an object-oriented language. Programming requirements include the implementation of abstract data types using arrays and dynamic links; recursion; sorting and searching; hashing; and string processing. Introduction to algorithm analysis. Offered Every Term.

Prerequisites: ((CSC 1500 with a minimum grade of C-) AND ((CSC 1501 with a minimum grade of C-) AND ((CSC 2110 with a minimum grade of C-) AND ((CSC 2111 with a minimum grade of C-) AND ((MAT 2010 with a minimum grade of C-)))

Corequisite: CSC 2201

CSC 2201 Computer Science II: Lab Cr. 1

Hands-on lab which complements lecture material in CSC 2200. Lab attendance is mandatory. Implementing data structures and algorithms using object-oriented techniques; techniques of analysis of algorithms; resulting implementations are working pieces of software that can be used in more advanced computer science courses. Offered Every Term.

Corequisite: CSC 2200

Course Material Fees: \$35

CSC 3010 Ethics in Computer Science Cr. 3

Students will study the ethical and legal issues that arise with the usage and development of computing technology. Students will learn the responsibilities of the computer professionals and how to make appropriate decisions when faced with legal and ethical issues in computing. Offered Every Term.

Prerequisites: ((CSC 2011 with a minimum grade of C) AND ((CSC 2111 with a minimum grade of C))

CSC 3020 Java Programming Cr. 3

Introduction to the fundamentals of programming using Java. Topics include: object-oriented programming, classes, constructors, flow control statements, data types, methods, inheritance, data hiding, abstraction, exceptions, file I/O, Java GUI, and Java packages. Offered Fall, Winter.

Prerequisites: ((MAT 1800 with a minimum grade of C-) OR [MAT 2010 with a minimum grade of C-) OR [MAT 2020 with a minimum grade of C-]) AND ((CSC 1100 with a minimum grade of C-) AND ((CSC 1101 with a minimum grade of C-))

CSC 3100 Computer Architecture and Organization Cr. 3

Organization and architecture of computer systems. Topics include: digital logic and digital systems; machine-level representation of data and programs; assembly level machine organization and programming; register-level description of computer execution and the functional organization of a computer; role and function of programming languages, libraries and operating systems; performance evaluation; systems programming. Offered Every Term.

Prerequisites: ((CSC 2200 with a minimum grade of D-) AND ((CSC 2201 with a minimum grade of D-) AND ((MAT 2010 with a minimum grade of D-))

Corequisite: CSC 3101

CSC 3101 Computer Architecture and Organization: Lab Cr. 1

Two-hour closed lab; students explore and experiment with assembly language programming, data representation, and simple circuit design. Lab attendance is mandatory. Offered Every Term.

Corequisite: CSC 3100

Course Material Fees: \$35

CSC 3110 Algorithm Design and Analysis Cr. 3

Formal techniques to support design and analysis of algorithms: underlying mathematical theory and practical considerations of efficiency. Topics include asymptotic complexity bounds, techniques of analysis, algorithmic strategies, advanced data and file structures, and introduction to automata theory and its application to language translation. Offered Fall, Winter.

Prerequisites: ((BE 2100 with a minimum grade of C-) AND ((CSC 2200 with a minimum grade of C) AND ((CSC 2201 with a minimum grade of C) AND ((MAT 2250 with a minimum grade of C-) AND ((MAT 2020 with a minimum grade of C-))

CSC 3200 Programming Languages Cr. 3

History and overview of programming languages, virtual machines, representation of data types; sequence control; data control, sharing and type checking; run-time storage management; language translation systems; programming language semantics; programming paradigms. Offered Yearly.

Prerequisites: ((CSC 2200 with a minimum grade of C-) AND ((CSC 2201 with a minimum grade of C-) AND ((MAT 2010 with a minimum grade of C-))

CSC 3400 Human-Computer Interaction Cr. 3

User interface design, usability, evaluation, user-centered design. Offered Irregularly.

Prerequisites: ((CSC 2200 with a minimum grade of C) AND ((CSC 2201 with a minimum grade of C))

Course Material Fees: \$10

CSC 3750 Introduction to Web Technology Cr. 3

Understanding the Internet using several access methods; required software and tools. Topics include: e-mail, FTP, Telnet, Gopher, Archie, Newsgroups, WWW, HTML, CGI and PHP scripting and how to create an active web site. Laboratory exercises required. No credit after CSC 5750. Offered Fall, Winter.

Prerequisites: ((CSC 1100 with a minimum grade of D-) AND ((CSC 1101 with a minimum grade of D-))

CSC 4110 Software Engineering Cr. 3

Software life cycle; software requirement analysis; software system design; software implementation and testing; software maintenance; team programming; ethics and programmers. Offered Fall, Winter.

Prerequisites: ((CSC 2200 with a minimum grade of C) AND ((CSC 2201 with a minimum grade of C) AND ((MAT 2010 with a minimum grade of C-) OR [MAT 3430 with a minimum grade of C-])

Corequisite: CSC 4111

Course Material Fees: \$10

CSC 4111 Software Engineering: Lab Cr. 1

Mandatory two-hour closed lab; lecture materials and hands-on exercises which complement CSC 4110. Offered Fall, Winter.

Corequisite: CSC 4110

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$35

CSC 4290 Introduction to Computer Networking Cr. 3

Introduction of topics such as network architecture, multiple access control, packet switching, routing and flow control, congestion control and quality-of-service, Internet protocols, and elements of distributed computing. Offered Yearly.

Prerequisites: ((CSC 2200 with a minimum grade of C-) AND ((CSC 2201 with a minimum grade of C-) AND ((CSC 3100 with a minimum grade of C-) AND ((CSC 3101 with a minimum grade of C-))

Restriction(s): Enrollment is limited to Undergraduate level students.

CSC 4420 Computer Operating Systems Cr. 3

Operating system services; file systems; CPU scheduling; memory management; virtual memory; disk scheduling; deadlocks; concurrent processes. Offered for undergraduate major credit only. Offered Fall, Winter.

Prerequisites: ((CSC 2200 with a minimum grade of D-) AND ((CSC 2201 with a minimum grade of D-) AND ((CSC 3100 with a minimum grade of D-) AND ((CSC 3101 with a minimum grade of D-))

Corequisite: CSC 4421

CSC 4421 Computer Operating Systems: Lab Cr. 1

Mandatory two-hour closed lab; lecture materials and hands-on exercises which complement CSC 4420. System call interface; introduction to operating systems programming; use of simulation to better understand operating systems behavior. Offered Fall, Winter.

Corequisite: CSC 4420

Course Material Fees: \$35

CSC 4500 Introduction to Theoretical Computer Science Cr. 3

Finite automata and regular expressions; context-free grammars; pushdown automata; Turing machines; hierarchy of formal languages and automata; computability and decidability. Offered Fall, Winter.

Prerequisites: [(CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C) OR (CSC 5050 with a minimum grade of C)] AND ([MAT 2010 with a minimum grade of C-])

CSC 4710 Introduction to Database Management Systems Cr. 3

Topics include: database concepts, ER modeling, schemas and constraints, SQL and relational algebra, web-based database applications, triggers and views, physical organization and indexing, query processing, query optimization, NoSQL databases. Offered Yearly.

Prerequisites: [(CSC 2200 with a minimum grade of C)] AND [(CSC 2201 with a minimum grade of C)]

CSC 4990 Directed Study Cr. 1-4

Individual study as agreed on by student and supervising faculty. Primarily for material not covered in regular courses. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 8 Credits

CSC 4992 Special Topics in Computer Science Cr. 1-3

Topics to be announced in the Schedule of Classes. Maximum of six credits may be applied toward satisfying the computer science elective, in any computer science degree program. Offered Yearly.

Prerequisite: CSC 2110 with a minimum grade of C and CSC 2111 with a minimum grade of C

Course Material Fees: \$35

Repeatable for 12 Credits

CSC 4995 Professional Practice in Computer Science Cr. 1

Review of computer science practical experiences resulting from participation in the cooperative work-study program. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

Repeatable for 4 Credits

CSC 4996 Senior Project and Computer Ethics Cr. 3

Development of skills for planning, managing, implementing, and documenting complex software projects; legal, social and ethical issues in software development and computer use. Project management techniques; professional conduct, social responsibility, liability, ownership of information, privacy, security and crime. Offered Fall, Winter.

Prerequisites: [(CSC 4110 with a minimum grade of C-)] AND [(CSC 4111 with a minimum grade of C-)] AND [(CSC 4710 with a minimum grade of C-)]

Corequisite: CSC 4997

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Computer Science, Computer Science Honors or Information Systems Technology.

CSC 4997 Senior Project Lab Cr. 1

Development of project management skills while managing, implementing and documenting a real-world project from initial idea to final implementation. Theory, software engineering techniques, group activities, and computer tools such as Microsoft Project. Mandatory lab. Offered Fall, Winter.

Corequisite: CSC 4996

Course Material Fees: \$35

CSC 4999 Honors Thesis Cr. 3-6

Independent study under supervision. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior.

CSC 5050 Algorithms and Data Structures Cr. 4

Introduction to problem solving methods and algorithm development; data abstraction for structures such as stacks, queues, linked lists, trees, and graphs; searching and sorting algorithms and their analysis. Not for CSC major credit. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ECE 4050

CSC 5250 Network, Distributed, and Concurrent Programming Cr. 3

Fundamental concepts and skills of developing networked, distributed, and concurrent applications. Topics include: inter-process communication, TCP/IP sockets programming, remote method invocation, multithreading, concurrency and synchronization. Offered Yearly.

Prerequisites: [(CSC 4420 with a minimum grade of C- and CSC 4421 with a minimum grade of C-)]

CSC 5270 Computer Systems Security Cr. 3

Fundamental technologies for enabling an e-society which is more predictable, more accountable, and less vulnerable to attacks. Covers three components: security requirements and protocols, cryptography algorithms, and case studies. Offered Fall.

Prerequisites: [(CSC 5250)]

CSC 5280 Introduction to Cyber-Physical Systems Cr. 3

Topics include: modeling, design, analysis, and implementation of cyber-physical systems; dynamic behavior modeling, state machine composition, and concurrent computation; sensors and actuators; embedded systems and networks; feedback control systems; temporal logic and model checking. Offered Fall, Winter.

Prerequisites: [(CSC 3100 with a minimum grade of C- and CSC 3110 with a minimum grade of C-)]

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: ECE 5280

CSC 5430 Game Programming and Design I Cr. 3

Fundamentals of game programming and game design using C++, DirectX, Windows, and C#. Offered Fall.

Corequisite: CSC 5431

CSC 5431 Game Programming and Design I: Lab Cr. 1

Laboratory for CSC 5430. Focus on modding, or making changes to existing programs to achieve specific results. Offered Fall.

Prerequisites: [(CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C) OR (CSC 5250 with a minimum grade of C-)]

Corequisite: CSC 5430

Course Material Fees: \$25

CSC 5710 Design of Intelligent Information Retrieval Systems Cr. 3

Indexing retrieval models (vector space, probabilistic and language models); document classification models (Naive Bayes and SVM); topic models (PLSA and LDA) and learning-to-rank methods; course includes practical assignments and a team-based final project. Offered Yearly.

Prerequisites: [(CSC 5800 with a minimum grade of C-)]

CSC 5750 Principles of Web Technology Cr. 3

History and development of the world-wide web. Techniques for authoring static and dynamic content for the world-wide web. Web security techniques. Electronic commerce on the web. Lab exercises required. Offered Fall, Winter.

Prerequisites: [(CSC 3750 with a minimum grade of C- and MAT 2010 with a minimum grade of C-)]

CSC 5800 Intelligent Systems: Algorithms and Tools Cr. 3

Introduction to basic algorithms and software tools for intelligent data representation and analysis, including: data pre-processing, data exploration and visualization, model evaluation, predictive modeling, classification methods, association analysis, clustering, anomaly detection, representing extracted patterns as expertise, tools for data mining and intelligent systems such as WEKA, CLIPS, and MATLAB. Offered Irregularly.

Prerequisites: ((CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, and MAT 2010 with a minimum grade of C-) OR [CSC 5050 with a minimum grade of C- and MAT 2010 with a minimum grade of C-])

CSC 5825 Introduction to Machine Learning and Applications Cr. 3

Through algorithmic investigation, brainstorming, and case analysis, students develop the skills and strategies that are necessary for effective learning from data, including Big Data emerging from science and engineering. Offered Winter.

Prerequisites: ((CSC 3110 with a minimum grade of C-))

CSC 5830 Computational Modeling of Complex Systems Cr. 3

Introduction to computer methods useful for modeling complex systems which are refractory to traditional methods of analysis. Emphasis on problem formulation and concrete examples drawn from computer science, engineering, chemistry, and biology. Offered Yearly.

Prerequisites: ((CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C) OR [CSC 5050 with a minimum grade of C-])

CSC 5860 Introduction to Pattern Recognition and Document Analysis Cr. 3

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. Offered Yearly.

CSC 5870 Computer Graphics I Cr. 3

Graphics devices, graphics primitives, 2-D transformations, windowing and clipping, modeling 3-D objects, 3-D viewing transformations, hidden surface removal, shading and color. Offered Yearly.

Prerequisites: ((CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, and MAT 2250 with a minimum grade of C-) OR [CSC 5050 with a minimum grade of C- and MAT 2250 with a minimum grade of C-])

CSC 5991 Special Topics in Computer Science Cr. 1-4

Topics to be announced in the Schedule of Classes. Offered Irregularly.

Prerequisites: ((CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C))

Repeatable for 9 Credits

CSC 6110 Software Engineering Cr. 3

Software process models; advanced software system design; software project management; software analysis; testing and performance analysis; software maintenance; reverse engineering; software reuse; software metrics; object-oriented development. Offered Yearly.

Prerequisites: ((CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, and MAT 2010 with a minimum grade of C-) OR [CSC 5050 with a minimum grade of C- and MAT 2010 with a minimum grade of C-])

CSC 6220 Parallel Computing I: Programming Cr. 4

Parallel computing concepts, examples of parallel computers, parallelism in algorithms / data / programs, experiences with state of the art parallel computers. Offered Yearly.

Prerequisites: (2 of CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C) AND (3 of CSC 3300 with a minimum grade of C-, CSC 3301 with a minimum grade of C-, CSC 5050 with a minimum grade of C-)

CSC 6280 Real-Time and Embedded Operating Systems Cr. 3

Operating system design for real-time and embedded systems. Focus on scheduling, synchronization, communication, and process and memory management for time-critical and resource-constrained applications. Offered Biannually.

Prerequisites: ((CSC 4420 with a minimum grade of C- and CSC 4421 with a minimum grade of C-))

CSC 6290 Data Communication and Computer Networks Cr. 3

Data communication fundamentals and principles governing computer communication networks. Components of networks, how they are connected; basics of design and implementation of network protocols. Offered Yearly.

Prerequisites: ((CSC 5250))

CSC 6430 Game Programming and Design II Cr. 3

Game design methods, team development, languages for game design, debugging and testing, game platforms, memory management and I/O, game physics, character animation, AI agents, AI path programming, networking, online and multiplayer gaming. Offered Yearly.

Prerequisites: ((CSC 5430 with a minimum grade of C- and CSC 5431 with a minimum grade of C-))

Corequisite: CSC 6431

CSC 6431 Game Programming and Design II: Lab Cr. 1

Architecture and tools for modern game platforms. Game development environment; basic aspects of game engine design, graphics engine design, use of shaders. Offered Yearly.

Prerequisites: ((CSC 5430 with a minimum grade of D- and CSC 5431 with a minimum grade of D-))

Course Material Fees: \$25

CSC 6500 Theory of Languages and Automata Cr. 3

Recursive and recursively enumerable languages; decidability and computability; Rice's theorem; time complexity; space complexity. Offered Fall, Winter.

Prerequisites: ((CSC 4500 with a minimum grade of C-))

CSC 6580 Design and Analysis of Algorithms Cr. 3

Best case, worst case, and expected case complexity analysis; asymptotic approximations; solutions of recurrence equations; probabilistic techniques; divide-and-conquer; the greedy approach; dynamic programming; branch and bound; NP-completeness; parallel algorithms. Offered Fall, Winter.

Prerequisites: ((CSC 3110 with a minimum grade of C-))

CSC 6620 Matrix Computation I Cr. 4

Background matrix algebra; linear system sensitivity; basic transformations; Gaussian elimination; symmetric systems; positive definite systems; Householder method for least squares problems; unsymmetric eigenvalue problems; the QR algorithm. Offered Yearly.

Prerequisites: (3 of CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, MAT 2250 with a minimum grade of C-) AND (1 of ECE 3040 with a minimum grade of C-, BE 2550 with a minimum grade of C-)

Equivalent: ECE 5020

CSC 6710 Database Management Systems I Cr. 3

Data models, normal forms, relational systems and SQL, query optimization, object-oriented systems, object-relational systems, student Oracle project. Offered Yearly.

Prerequisites: ((CSC 4710 with a minimum grade of D-))

CSC 6800 Artificial Intelligence I Cr. 3

Basic concepts; topics include: recursive problem solving, knowledge representation using semantic networks and frames, state space search methods, planning and problem solving, game playing and adversarial search methods, rules and production systems (RETE networks), constraint satisfaction techniques and applications, optimization algorithms including genetic algorithms, logic programming. Implementation in Lisp and Prolog. Offered Yearly.

Prerequisites: ((CSC 3110 with a minimum grade of C-))

CSC 6860 Digital Image Processing and Analysis Cr. 3

Review of image formation and acquisition; image transformation; image enhancement and restoration; image compression; morphological image processing; edge detection and segmentation; architecture for image processing. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

CSC 6870 Computer Graphics II Cr. 3

Representing curves and surfaces; solid modeling; fractal geometry; camera models; illumination models; ray tracing; radiosity methods; transparency; texture; graphics packages. Offered Yearly.

Prerequisites: ((CSC 5870 with a minimum grade of D-))

Course Material Fees: \$20

CSC 6991 Topics in Computer Science Cr. 1-4

Current topics to be announced in the Schedule of Classes. Offered Irregularly.

Prerequisites: ((CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Repeatable for 9 Credits

CSC 6995 Internship in Computer Science Cr. 1-3

Experience in industry using tools from the computer science curriculum. Students provide a written report based on the internship experience. Offered Every Term.

Repeatable for 4 Credits

CSC 7110 Software Engineering Environments Cr. 3

Architecture of software engineering environments; syntax directed editors; CASE tools; tools for software maintenance; expert systems for software maintenance. Offered Yearly.

Prerequisite: CSC 6110 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7220 Parallel Computing II: Algorithms and Applications Cr. 4

Problems in parallel algorithms: design, analysis, complexity. Cluster and grid computing: tools, programming, and applications. Offered Yearly.

Prerequisite: CSC 6220 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7260 Distributed Systems Cr. 3

Models of distributed systems, distributed synchronization, algorithms, consistency and replication models and algorithms, fault-tolerance in distributed systems. Offered Biannually.

Prerequisite: CSC 5250 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7270 Advanced Computer Security Cr. 3

Advanced topics in protecting information computer systems and data. Topics include, but are not limited to, crypto-algorithms and protocols (e.g., IDEA, Elliptic Curve Cryptosystems, and the Byzantine Generals Problem), and secure system design principles. Hands-on design project will reinforce the material. Offered Winter.

Prerequisite: CSC 5270 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

CSC 7290 Advanced Computer Networking Cr. 3

Foundations of computer networking (e.g., performance evaluation and analysis, protocol specification and verification), latest development in network architecture and technology (e.g., wireless networks, sensor networks, peer-to-peer networks, vehicular networks). Offered Yearly.

Prerequisite: CSC 6290 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

CSC 7300 Bioinformatics I: Biological Databases and Data Analysis Cr. 3

Concepts of bioinformatics; tools for storing and analysis of bioinformatics data. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7301 Bioinformatics I: Programming Lab Cr. 1

Hands-on experience and exercises for CSC 7300/MBG 7300 lectures. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

CSC 7410 Bioinformatics II Cr. 4

Biology of bioinformatics, DNA and protein sequencing, introduction of systems biology, mRNA expressions analysis, pathway and molecular machines analysis. Offered Winter.

Prerequisite: CSC 7300 with a minimum grade of C and CSC 7301 with a minimum grade of C and MGG 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7430 Electronic Commerce Cr. 3

Introduction to design and analysis of internet commerce systems. Protocols for electronic transactions; online payments and exchanges e-cash; game theory and mechanism design; online auction design; sponsored search auctions, combinatorial auctions. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7710 Database Management Systems II Cr. 3

Concurrency control, transaction processing, crash recovery, security, distributed and heterogeneous databases, data warehousing, data mining, multimedia systems, student Oracle project. Offered Yearly.

Prerequisite: CSC 6710 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7800 Artificial Intelligence II Cr. 3

Advanced topics from these areas: machine learning techniques (inductive and deductive), neural networks and perceptrons, genetic algorithms, advanced concepts in knowledge-based system design, inexact inference, constraint satisfaction techniques and applications, object-oriented programming. Implementation in Lisp and Prolog. Offered Yearly.

Prerequisite: CSC 6800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7810 Data Mining: Algorithms and Applications Cr. 3

Application of various basic/advanced data mining techniques to real-world problems. Offered Winter.

Prerequisite: CSC 5800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: IE 7811

CSC 7825 Machine Learning Cr. 3

Supervised learning including regression, kernel-based, tree-based, probability model based and ensemble learning; unsupervised learning including distance based and model based; Markov Chain Monte Carlo (MCMC) methods; graphical models; current topics from literature. Offered Fall.

Prerequisite: CSC 5825 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7860 Computer Vision Cr. 3

Low-level vision processing, use of constraints in visual processing, three-dimensional object recognition, dynamic scene analysis, model-based vision systems, use of neural and fuzzy logic methods in vision. Offered Yearly.

Prerequisite: CSC 6860 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 7990 Directed Study Cr. 1-5

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

CSC 7991 Advanced Topics in Computer Science Cr. 1-4

Topics to be announced in the Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

CSC 8110 Seminar in Software Engineering and Environments Cr. 3

Discussion of current papers in the field. Offered Biannually.

Prerequisite: CSC 7110 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 8260 Seminar in Networking, Distributed Systems and Parallel Systems Cr. 3

Discussion of current research papers in the fields. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

CSC 8710 Seminar in Database Management Systems Cr. 3

Discussion of current papers in the field. Offered Biannually.

Prerequisite: CSC 6710

Restriction(s): Enrollment is limited to Graduate level students.

CSC 8800 Seminar in Artificial Intelligence Cr. 3

Discussion of current papers in the field. Offered Biannually.

Prerequisite: CSC 7800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 8860 Seminar Topics in Computer Vision and Pattern Recognition Cr. 3

Discussion of current papers in the field. Offered Biannually.

Prerequisite: CSC 7860 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

CSC 8990 Graduate Seminar Cr. 1

Discussion of current research by faculty and visitors. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

CSC 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CSC 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CSC 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: CSC 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

CTE - CAREER AND TECHNICAL EDUCATION

CTE 5401 Instructional Practices for the Career and Technical Education Classroom: Module 1 Cr. 1

The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews the history of CTE and its impact on industry. Offered Biannually.

CTE 5402 Instructional Practices for the Career and Technical Education Classroom: Module 2 Cr. 1

This is Module Two of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews MCCTE Navigator standards and their relationship to industry expectations. Offered Biannually.

CTE 5403 Instructional Practices for the Career and Technical Education Classroom: Module 3 Cr. 1

This is Module Three of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews mastery-learning, performance-based and project-based instructional strategies in the CTE classroom. Offered Biannually.

CTE 5404 Instructional Practices for the Career and Technical Education Classroom: Module 4 Cr. 1

This is Module four of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews assessment strategies in the CTE classroom. Offered Biannually.

CTE 5405 Instructional Practices for the Career and Technical Education Classroom: Module 5 Cr. 1

This is Module five of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews Career Technical Student Organization (CTSO) and industry partner relationships. Offered Every Term.

CTE 5406 Instructional Practices for the Career and Technical Education Classroom: Module 6 Cr. 1

This is Module six of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews strategies for remaining current with industry and teaching profession trends. Offered Every Term.

CTE 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. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Education.

CTE 5501 Instructional Practices for the Teacher Cadet Classroom - Module 1 Cr. 1

This is Module one of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews early childhood concepts and related classroom and parent practices. Offered Every Term.

CTE 5502 Instructional Practices for the Teacher Cadet Classroom - Module 2 Cr. 1

This is Module two of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews education concepts for preschoolers and related classroom and parent practices. Offered Every Term.

CTE 5503 Instructional Practices for the Teacher Cadet Classroom - Module 3 Cr. 1

This is Module three of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews brain-based learning theory and its impact in the preschool classroom. Offered Every Term.

CTE 5504 Instructional Practices for the Teacher Cadet Classroom - Module 4 Cr. 1

This is Module four of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews education concepts for primary students and related classroom and parent practices. Offered Every Term.

CTE 5505 Instructional Practices for the Teacher Cadet Classroom - Module 5 Cr. 1

This is Module five of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews enhancing the instructional delivery system to accommodate special needs learners in the primary and early elementary classroom. Offered Every Term.

CTE 5506 Instructional Practices for the Teacher Cadet Classroom - Module 6 Cr. 1

This is Module six of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews family and parent involvement best practices in school settings. Offered Every Term.

CTE 6010 History and Principles of Career and Technical Education Cr. 3

Overview of organization and administration at the federal, state, and local levels. Recent developments and their significance for school reform and improvement; business and industry linkages. Offered Yearly.

CTE 6110 Fundamentals for the Teacher Cadet Classroom I Cr. 3

Review of history of the discipline and related curriculum trends; how social and cultural changes affect education; basic concepts of human growth. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Education.

CTE 6120 Fundamentals for the Teacher Cadet Classroom II Cr. 3

Teacher Cadet instructors reflect upon various aspects of teaching in preparation to instruct secondary students enrolled in Teacher Cadet program. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Education.

CTE 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. Offered Fall, Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 6 Credits

CTE 6999 Coordination of Cooperative Occupational Education Cr. 3

Philosophy and objectives of educational programs that provide for work experience. Student selection, on-the-job and in-school instruction, placement, coordination, advisory committees, and administration of such programs. Offered Fall.

CTE 7820 Planning and Organizing Instruction in Career and Technical Education Cr. 3

Planning and organizing instruction for a competency based program: justification, approaches for content, performance objectives, instructional resources, planning and evaluating units. Should be taken in first two semesters of admission to career and technical education master's program. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

CTE 8998 Current Issues and Trends Cr. 3

Place, function, and evolving concepts of career and technical education. Economic, sociological, psychological, and technical factors. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

DNC - DANCE

DNC 0512 Pilates Equipment Lab Cr. 0

Individual study in Pilates lab. Offered Fall, Winter.

Prerequisites: ([DNC 5110] OR [DNC 1305])

Restriction(s): Enrollment is limited to students with a major in 2nd Dance, Dance or Dance Honors.

DNC 1010 Introduction to Modern Dance Cr. 2

Basic movement techniques and improvisational experiences in concert dance; films and concert viewing. Offered Every Term.

Course Material Fees: \$60

DNC 1020 Modern Dance I Cr. 2

Continuation of DNC 1010 on an intermediate level. Offered Every Term.

Course Material Fees: \$60

Repeatable for 6 Credits

DNC 1210 Fundamentals of Classic Ballet I Cr. 2

Introduction to the fundamentals of classical ballet; emphasis on vocabulary, theory and practice, including films and concert viewing. Offered Every Term.

Course Material Fees: \$60

Repeatable for 8 Credits

DNC 1220 Fundamentals of Classic Ballet II Cr. 2

Continuation of DNC 1210. Offered Every Term.

Course Material Fees: \$60

Repeatable for 8 Credits

DNC 1260 Introduction to the Philosophy and Practice of Iyengar Yoga Cr. 3

Yoga philosophy and practice is presented in a format to enrich appreciation for the art of Yoga as both a belief system and as a physical art form through in-depth study and discussion of its philosophical principles and daily practice of asana (postures) with attention to balance, precision and alignment. Offered Every Term.

Course Material Fees: \$30

DNC 1300 Pilates Mat for Performing Artists Cr. 1

Introduction to Stott Pilates conditioning for dance and theatre artists. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance, Dance Honors, Theatre or Theatre Honors.

Course Material Fees: \$40

DNC 1305 Pilates Reformer for Dancers Cr. 1

Continuation of DNC 1300; Pilates equipment training specifically for dancers. Offered Winter.

Prerequisites: ([DNC 1300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors.

Course Material Fees: \$60

DNC 1330 Production Practicum Cr. 1

Introductory technical production experience supporting concert dance performances; skill development in stage management, lighting and sound operation, videography, and stage crew responsibilities; part of Digital Dance Literacy curriculum. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 99 Credits

DNC 1810 Introduction to Dance Professions Cr. 3

Survey of dance professions in administration, teaching, arts management and advocacy, dance production and commercial sector.

Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$30

DNC 2000 Introduction to World Dance Cr. 3

Global perspective on and definition of dance, through assigned readings, writing, field trips, and laboratory experience. Focus on multicultural diversity, interdependent nature of dance. Offered Every Term.

Course Material Fees: \$50

DNC 2010 Modern Dance II: Part I Cr. 2

Modern dance technique of increasing difficulty and complexity; experiences in improvisation, problem solving, and compositional studies in dance. Offered Fall, Winter.

Prerequisite: DNC 1020 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 12 Credits

DNC 2020 Modern Dance II: Part II Cr. 2

Continuation of DNC 2010. Modern dance technique of advancing difficulty; further experiences in improvisation, problem solving and composition; analysis and refinement of technique and performance skills. Offered Winter.

Prerequisite: DNC 2010 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 12 Credits

DNC 2225 Contemporary Ballet Cr. 1

Investigation of movement, styles and technical foundations of Contemporary Ballet. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance, Dance Honors, Theatre or Theatre Honors.

Course Material Fees: \$60

Repeatable for 3 Credits

DNC 2250 Men's Ballet Cr. 1

Introduction to men's ballet including terminology, movement vocabulary, aesthetics and classroom etiquette. Offered Yearly.

Prerequisites: ([DNC 1220 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors; enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 6 Credits

DNC 2260 Yoga Cr. 1

Investigation of breath, movement and increased awareness of the body/mind for dance and theatre artists through yoga postures and Vedanta philosophy. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance, Dance Honors, Theatre or Theatre Honors.

Course Material Fees: \$50

Repeatable for 3 Credits

DNC 2300 History of Dance to 1800 Cr. 3

Survey of dance in western civilization from pre-historic times through the eighteenth century; how dance evolved from expression of primitive cultures to independent theatrical entertainment in western Europe. Offered Biannually (Winter).

Course Material Fees: \$30

DNC 2310 History of Dance from 1800 to the Present Cr. 3

Introduction to critical dance studies and dance history from 1800-present. Impact of vernacular dance and historical ballet and modern concert dance on contemporary dance, examined formally and socio-culturally. How dance circulates globally as mediated and embodied history. Offered Fall, Winter.

Course Material Fees: \$30

DNC 2311 Issues and Trends in Contemporary Dance Cr. 2

Discussion of current events, trends and issues; includes technology component as part of Digital Dance Literacy curriculum. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$30

DNC 2400 Introduction to African Dance Cr. 3

Exploration of African and African derived dance forms, together with their integrated philosophy, music, art and theatre forms. Lectures, videos, concert attendance and reading assignments to learn and perform dances from selected African societies. Offered Every Term.

Course Material Fees: \$60

DNC 2410 Music and Dance Relationships Cr. 3

Study of the basic elements common to dance and music including rhythm, dynamics, and form. Examples of music especially composed for dance will be examined along with dance styles of historical periods; includes technology component as part of Digital Dance Literacy curriculum. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$30

DNC 2460 Dance Improvisation Cr. 2

Introduction to dance improvisational techniques and performance skills as applied to movement invention, performance, and choreography. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors; enrollment is limited to Undergraduate level students; enrollment limited to students in the Fine, Performing & Comm. Arts.

DNC 2500 Choreography I Cr. 2

Construction of motifs and dance studies based on nonliteral and literal thematic materials; emphasis on form and structural concepts. Offered Winter.

Prerequisites: ([DNC 2460 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 2600 African Dance II Cr. 2

Intermediate technique and theory. Offered Fall, Winter.

Prerequisite: DNC 2400 with a minimum grade of C-

Course Material Fees: \$60

Repeatable for 8 Credits

DNC 2610 Jazz I Cr. 2

Introduction to jazz dance technique; emphasis on alignment, movement isolation, rhythmic awareness, basic dance vocabulary, historical development. Offered Fall, Winter.

Repeatable for 8 Credits

DNC 2620 Tap Dance Cr. 1

Study and practice of tap dance technique and choreography. Offered Yearly.

Course Material Fees: \$50

Repeatable for 3 Credits

DNC 2630 Hip Hop Dance Styles Cr. 1

Study and practice of hip hop dance styles. Offered Yearly.

Course Material Fees: \$50

Repeatable for 2 Credits

DNC 3010 Modern Dance III Cr. 2

Continuation of DNC 2020; modern dance technique at the intermediate level. Offered Fall, Winter.

Prerequisites: ([DNC 2010 with a minimum grade of C] OR [DNC 2020 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 8 Credits

DNC 3180 Dance Kinesiology Cr. 3

Introduction to analysis of dance movement from an anatomical and mechanical point of view. Relationships between neuromuscular retraining, alignment and technique. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 3190 Movement Analysis Cr. 3

Continuation of anatomical and mechanical analyses of dance; emphasis on somatic and dance science approaches. Offered Biannually (Winter).

Prerequisites: ([DNC 3180 with a minimum grade of D-])

DNC 3200 Ballet III Cr. 2

Continuation of DNC 1220 on a more advanced technical level with emphasis on complex movement phrases and selections from classical repertory. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 16 Credits

DNC 3220 Ballet Pointe Technique Cr. 1

Technical skill development on pointe. Offered Fall.

Prerequisite: DNC 3210 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 4 Credits

DNC 3310 Dance Production Cr. 3

Concentration on selected types of dance production including an examination of purpose and content; technical considerations such as costumes, makeup, lighting and decor; the management of performance-related matters, and the use of technology, computer and video to support production work; part of Digital Dance Literacy curriculum. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$30

DNC 3410 Jazz II Cr. 2

Continuation of DNC 2610 on a more advanced level. Offered Every Term.

Prerequisite: DNC 2610 with a minimum grade of C

Course Material Fees: \$50

Repeatable for 4 Credits

DNC 3500 Choreography II Cr. 2

Exploration of time, space, and design tools for choreography; focus on formal construction of small group studies and dances. Offered Fall.

Prerequisites: ([DNC 2410 with a minimum grade of C]) AND ([DNC 2500 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$50

DNC 3600 Dance for Camera Cr. 2

Study and practice of making dance on film; development of basic film theory and screen dance skills and aesthetics. Open to junior and senior dance majors. Offered Fall.

Prerequisites: ((DNC 3500 with a minimum grade of D-))

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major, minor, or concentration in Dance.

Course Material Fees: \$30

DNC 3810 Dance Pedagogy Cr. 3

Theory and practice of dance teaching in arts education; foundational emphasis on social and cultural aspects of pedagogical theory in multiple settings. Offered Winter.

Prerequisites: ((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100) OR ((BA) Competencies Waiver with a test score minimum of 100))

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$30

DNC 4010 Modern Dance IV Cr. 2

Continuation of DNC 3010. Modern dance technique, advanced level. Offered Fall, Winter.

Prerequisites: ((DNC 3010 with a minimum grade of C))

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 16 Credits

DNC 4200 Ballet IV Cr. 2

Continuation of DNC 3200 with emphasis on advanced knowledge of classical ballet vocabulary. Offered Every Term.

Prerequisite: DNC 3200 with a minimum grade of C or DNC 2210 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$60

Repeatable for 16 Credits

DNC 4410 Student Teaching and Seminar I Cr. 2-6

First experience in student teaching. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

DNC 4420 Student Teaching and Seminar II Cr. 2-6

Second experience in student teaching. Offered Fall, Winter.

Prerequisite: DNC 4410 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

DNC 4601 Problems in Choreography Cr. 2

Seminar discussion and applied experiences in choreographic problems; intensive study of choreographic structure, content and intention. Offered Fall, Winter.

Prerequisite: DNC 2500 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 4610 Jazz III Cr. 2

Continuation of DNC 3410 with advanced training in jazz technique and styles. Offered Fall, Winter.

Prerequisite: DNC 2500 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$50

DNC 4810 Teaching Secondary Dance Methods Cr. 3

Analysis of instructional methods and materials in modern dance and ballet, including technique, improvisation, composition, curriculum planning and evaluation. Offered Biannually (Winter).

Prerequisite: DNC 1020 with a minimum grade of C and DNC 1220 with a minimum grade of C

DNC 4820 Assisting in Dance Cr. 1

Assigned field work in assisting under faculty supervision. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

DNC 4910 Dance in Community Cr. 3

Survey of dance programs and projects in community settings, with emphasis on sociocultural aspects and social inclusion of disenfranchised or underrepresented populations; includes theoretical and applied experience in community dance practice. Offered Fall.

Prerequisite: DNC 3810 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors.

DNC 5000 Performance Tour Cr. 2

Development and performance of touring dance performances off campus including regional, national, and international festivals; productions for elementary, middle and secondary school audiences. Offered Winter.

Prerequisite: DNC 5610 with a minimum grade of C or DNC 6610 with a minimum grade of C

Repeatable for 8 Credits

DNC 5110 Study in Dance Styles Cr. 1

Examination of a particular dance or movement style; i.e., historic period, technique, somatic, tap, ballroom and social dance forms; Pilates mat, reformer. Offered Every Term.

Course Material Fees: \$50

Repeatable for 16 Credits

DNC 5560 Choreography III Cr. 2

Continuation of DNC 3500; more advanced experience in choreographic forms and exploration of collaborative and technological approaches to choreography; part of Digital Dance Literacy curriculum. Offered Fall.

Prerequisite: DNC 2500 with a minimum grade of C and DNC 3500 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Course Material Fees: \$30

Repeatable for 6 Credits

DNC 5600 Improvisation Cr. 2

Spontaneous movement exploration in response to a variety of stimuli: literal, visual, kinesthetic, auditory, verbal, and tactile. Offered Fall.

Course Material Fees: \$50

DNC 5610 Dance Company I Cr. 1

Performing company. Open to students interested in performing and/or choreographing. Offered Fall, Winter.

Prerequisite: DNC 2010 (may be taken concurrently) with a minimum grade of C or DNC 3010 (may be taken concurrently) with a minimum grade of C or DNC 4010 (may be taken concurrently) with a minimum grade of C or DNC 6010 (may be taken concurrently) with a minimum grade of C

Course Material Fees: \$60

Repeatable for 8 Credits

DNC 5700 Performance Studies Cr. 3

The study of performance studies' interdisciplinary genealogy, which draws from anthropology, theatre, dance, and visual, rhetorical, gender, and cultural studies. Application of how performance theory/praxis operates as both object of study and critical lens. Offered Fall.

Prerequisites: (May be taken concurrently: [ENG 3010 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Course Material Fees: \$40

Equivalent: THR 5700

DNC 5710 Dance Techniques Cr. 1-6

A concentrated period of advanced dance study in technique, composition and repertory, often with a visiting artist. Offered Fall, Winter.

Repeatable for 12 Credits

DNC 5800 Repertory Cr. 1

Learning, for performance, of dance repertory, dances previously choreographed by faculty, Labanotated dance, or work of artist-in-residence. Offered Fall, Winter.

Course Material Fees: \$60

Repeatable for 12 Credits

DNC 5810 Teaching Creative Dance for Children Cr. 3

Approaches to creative dance experiences for children stressing the development of aesthetic and kinesthetic awareness. Focus on comprehensive arts and curriculum related materials. Offered Fall.

DNC 5830 Field Work in Creative Dance Cr. 2-8

Supervised professional study in field settings. Offered Every Term.

Prerequisite: DNC 5810 with a minimum grade of C

DNC 5910 Dance Professions Seminar Cr. 3

Advanced inquiry and study of dance professions in applied settings within an approved internship or fieldwork context. Serves as pre-Capstone experience. Offered Fall.

Prerequisite: DNC 4910 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 5990 Independent Study in Dance Cr. 1-4

Independent work in dance under faculty guidance. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

Repeatable for 12 Credits

DNC 5993 Writing Intensive Course in Dance Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. See Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required of all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [DNC 2300] OR [DNC 2310] OR [DNC 3310] OR [DNC 3810] OR [DNC 4910] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

DNC 5996 Senior Capstone Research Cr. 3

Group and solo choreography, concert production, publicity and promotion; research component includes digital dance portfolio. Offered Winter.

Prerequisite: DNC 3500 with a minimum grade of C

Course Material Fees: \$50

Equivalent: DNC 5560

Repeatable for 6 Credits

DNC 5997 Departmental Honors Thesis Cr. 3

Group and solo choreography, concert production, publicity and promotion; research component includes digital dance portfolio. Offered Winter.

Prerequisite: DNC 3500 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Dance Honors; enrollment is limited to Undergraduate level students.

DNC 5998 Professions Capstone Research Cr. 3

Advanced inquiry and study of dance professions in applied settings within an approved internship or fieldwork context. Serves as capstone experience for BS dance majors. Offered Winter.

Prerequisite: DNC 5910 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors; enrollment limited to students in a Bachelor of Science degree.

DNC 6010 Technique Laboratory III Cr. 1

Modern Dance technique, advanced level. Offered Fall, Winter.

Prerequisite: DNC 4010 with a minimum grade of C

Repeatable for 8 Credits

DNC 6610 Dance Company II Cr. 1

Performing company. Performing, choreographic and/or production responsibilities. Offered Fall, Winter.

Prerequisite: DNC 5610 with a minimum grade of C

Repeatable for 8 Credits

DR - DISPUTE RESOLUTION

DR 6120 Human Diversity and Human Conflict Cr. 3

Relationship of human differences and conflict, and ways to nonviolently confront and work with them; differences as defined by ethnicity, race, gender, class, age, etc. Offered Winter.

DR 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. Offered Irregularly.

DR 7100 Roots of Social Conflict Cr. 3

Background and immediate causes of social conflict, from interpersonal to national to international settings, from ethnic to gender conflict; review of destructive and constructive aspects of conflict. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

DR 7210 Concepts and Processes of Dispute Resolution I: Negotiation Theory and Practice Cr. 3

Theoretical foundations of processes of negotiation and multi-party collaborative problem solving. Skill building simulation to integrate theory and practice. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: MGT 7780

DR 7220 Concepts and Processes of Dispute Resolution II: Neutral Intervention Theory and Practice Cr. 3

Dispute resolution growth and methods; mediation, facilitation, conciliation, fact-finding, arbitration; hybrids; dispute resolution institutions and practitioners. Offered Winter.

Prerequisite: MGT 7780 with a minimum grade of C or DR 7210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

DR 7310 Practicum in Dispute Resolution Cr. 3

Training in facilitative mediation with opportunity to practice skills in a variety of settings. Offered Fall.

Prerequisite: DR 7210 with a minimum grade of C and DR 7220 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$225

Equivalent: LEX 7660

DR 7890 Final Seminar in Dispute Resolution Cr. 3

Capstone seminar for Dispute Resolution program. Critical issues and assumptions in the practice and research spheres. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

DR 7990 Directed Study in Dispute Resolution Cr. 1-4

Advanced independent readings and writing under supervision of graduate faculty member, in areas of special interest. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

DSA - DATA SCIENCE AND ANALYTICS

DSA 6000 Data Science and Analytics Cr. 3

Basic data science and analytics concepts covered through case studies, success stories, and a semester project that cuts across all course modules. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 6100 Statistical Methods for Data Science & Analytics Cr. 3

Statistical methods and techniques required for data science and analytics applications covered through case studies, success stories, and a semester project that cuts across all course modules. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 6200 Operations Research Cr. 3

Mathematical optimization models that come into play in data science and analytics applications covered through case studies and a semester project. Heuristic solution approaches will also be addressed along with sensitivity analysis techniques. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 6300 Decision Analysis and Simulation Cr. 3

Coherent approach to decision making, developing rules of thought to transform complex decisions into simpler decision situations covered through case studies, success stories, and a semester project that cuts across all course modules. Discusses role of discrete-event simulation for improving decision support. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 7500 Practicum Cr. 6

Application of theoretical knowledge acquired during the Data Science and Business Analytics program to a project involving actual business problems/opportunities and data in a realistic setting. Engages the entire process of solving a real-world data science and business analytics project including: setting the project scope, collecting and processing data, applying analytic methods and presenting the developed solution platform. Both the problem statements for the project assignments and the datasets originate from real-world domains. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics; enrollment is limited to Graduate level students.

Equivalent: DSB 7500, DSE 7500

DSB - DATA SCIENCE FOR BUSINESS

DSB 6000 Data Science Strategy & Leadership Cr. 3

Provides an understanding of how organizations can leverage data science and analytics to gain competitive advantage and how to use the data to align with a company's mission and goals. Students will learn how organizations derive business value/impact, and return on investment, and the importance of interpreting and communicating the business case. Offered Yearly.

DSB 6100 Marketing Analytics Cr. 3

Application and synthesis of marketing methods and modeling approaches to design, analyze, and optimize digital marketing campaigns and to understand customer segments, customer life cycles, and lifetime values. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSB 6200 Manufacturing & Supply Chain Analytics Cr. 3

Discussion of the strategic and tactical issues surrounding the design and operation of supply chains through effective information collection, sharing, and collaboration, an understanding of applied analytical tools and methods that can be used to make better supply chain decisions and practical application of supply chain advanced planning and optimization solutions. Offered Yearly.

DSB 6300 Social and Collaboration Networks Cr. 3

Leveraging data science tools & technologies for network analysis with practical applications to support and provide a structure for fact-based decision making for individuals working to gain insight into complex organizational problems. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSB 7500 Practicum Cr. 6

Application of theoretical knowledge acquired during the Data Science and Business Analytics program to a project involving actual business problems/opportunities and data in a realistic setting. Engages the entire process of solving a real-world data science and business analytics project including: setting the project scope, collecting and processing data, applying analytic methods and presenting the developed solution platform. Both the problem statements for the project assignments and the datasets originate from real-world domains. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics; enrollment is limited to Graduate level students.

Equivalent: DSA 7500, DSE 7500

DSE - DATA SCIENCE FOR ENGINEERING

DSE 6000 Computing Platforms for Data Science Cr. 3

Covers an overview of various computing platforms for developing, deploying, configuring a wide range of data science applications for different domains. The programming models, characteristics of supported workload, and management of performance, cost and scalability will be compared side by side. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSE 6100 Data Modeling and Management Cr. 3

Covers both traditional data modeling and big data modeling from conceptual design, logical-to-physical mapping, to physical schema optimization. Provenance management, which concerns about the lineage and history of a data product, is important for the repeatability of data analysis. The course will present various concepts of provenance and its relationships to data quality and trust. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSE 6200 Modern Databases Cr. 3

Covers an overview of databases, tools, and computing platforms. One focus is basic SQL, NoSQL, and NewSQL programming skills and a comparison of their cons and pros. In particular, the students will learn the criteria to choose a database system, either SQL or NoSQL, based on the requirements of an application domain. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSE 6300 Data Science Applications Development Cr. 3

Focuses on the software engineering cycle of developing a comprehensive data science application. Students will have the freedom to choose a computing platform, or a NoSQL database as the underlying infrastructure for developing a data science application. Students will also choose a particular domain and problem in which one needs to address one of the big data challenges: volume, velocity, or variety. Offered Yearly.

DSE 7500 Practicum Cr. 6

Application of theoretical knowledge acquired during the Data Science and Business Analytics program to a project involving actual business problems/opportunities and data in a realistic setting. Engages the entire process of solving a real-world data science and business analytics project including: setting the project scope, collecting and processing data, applying analytic methods and presenting the developed solution platform. Both the problem statements for the project assignments and the datasets originate from real-world domains. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics; enrollment is limited to Graduate level students.

Equivalent: DSA 7500, DSB 7500

ECE - ELECTRICAL AND COMPUTER ENGINEERING

ECE 2610 Digital Logic I Cr. 4

Introduction to Boolean algebra; Logic Gates; Minimization of Boolean Functions; K-Map of up to 4 variables; Basic digital circuits like adder, subtractor, multiplexers, decoders etc.; Sequential circuits; Memories; PLAs; Counters using different flip-flops such as D, T, R-S and J-K; Design of simple computer; Introduction to Verilog and FPGAs. Offered Every Term.

Prerequisites: ([PHY 2185 with a minimum grade of D-] OR [PHY 2180 with a minimum grade of D-]) AND (May be taken concurrently: [CSC 2000 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

ECE 3040 Numerical Methods for Engineers Cr. 3

Developing numerical algorithms to provide solutions to engineering problems. Derivation of numerical algorithms and investigation of their stability, accuracy, efficiency and scalability. Programming numerical algorithms in Matlab. Topics include: Machine Round-off error, truncation error, root finding, solution of systems of linear and nonlinear algebraic equations, Taylor and Chebyshev series and rational function approximation, interpolation, regression, numerical differentiation, numerical integration, numerical solution of ordinary differential equations, and Monte Carlo methods. Offered Every Term.

Prerequisites: ([BE 1200 with a minimum grade of C-] AND ([MAT 2030 with a minimum grade of C-] AND (May be taken concurrently: [MAT 2150 with a minimum grade of C-] OR [MAT 2250 with a minimum grade of C- and MAT 2350 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

Course Material Fees: \$15

ECE 3300 Introduction to Electrical Circuits Cr. 4

Electrical quantities and waveforms; resistance and Ohm's law; networks and Kirchhoff's laws; network equivalents; nodal and mesh analysis; Thevenin's theorem and other network theorems. First- and second-order systems. Offered Every Term.

Prerequisites: ([PHY 2185 with a minimum grade of C-] OR [PHY 2180 with a minimum grade of C-]) AND (May be taken concurrently: [MAT 2150 with a minimum grade of C-] OR [MAT 2250 with a minimum grade of C- and MAT 2350 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

ECE 3320 Introduction to Electrical Circuits Cr. 4

Electrical signals and waveforms; resistance and Ohm's law; networks and Kirchhoff's laws; network equivalents; nodal and mesh analysis; Thevenin's theorem; energy storage systems; Introduction to sinusoidal steady-state response; complex frequency concepts; Frequency responses. No credit towards B.S. EE degree. Offered Yearly.

Prerequisites: ([PHY 2185 with a minimum grade of C-] OR [PHY 2180 with a minimum grade of C-]) AND (May be taken concurrently: [MAT 2150 with a minimum grade of C-])

ECE 3330 Electrical Circuits II Cr. 4

Sinusoidal steady-state response; three-phase systems; complex frequency concepts; frequency responses; resonant and coupled circuits; application of Fourier transforms and Laplace transform to electrical circuits. Offered Every Term.

Prerequisites: (May be taken concurrently: [MAT 2150 with a minimum grade of C-] OR [MAT 2250 with a minimum grade of C- and MAT 2350 with a minimum grade of C-]) AND ([ECE 3300 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 3570 Electronics Cr. 4

DC and small signal analysis of diodes, MOSFETs, and BJTs circuits; operational amplifiers, single-stage amplifiers, differential pair, gain, input resistance, output resistance, and bandwidth of amplifiers. Offered Every Term.

Prerequisite: ECE 3330 (may be taken concurrently) with a minimum grade of C- or ECE 3300 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$15

ECE 3620 Introduction to Microcomputers Cr. 4

Basics of digital systems, number systems, functional blocks of microcomputers, assembly language and machine code, applications of microcomputers and experimental demonstrations. Introduction to digital logic. Offered Every Term.

Prerequisites: ([BE 1200 with a minimum grade of D-] AND ([ECE 2610 with a minimum grade of D-] OR [ECE 3610 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

Course Material Fees: \$25

ECE 4050 Algorithms and Data Structures Cr. 4

Introduction to problem solving methods and algorithm development; data abstraction for structures such as stacks, queues, linked lists, trees, and graphs; searching and sorting algorithms and their analysis. Offered Yearly.

Prerequisite: CSC 2000 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Equivalent: CSC 5050

ECE 4330 Linear Systems and Signals Cr. 4

Content includes: continuous-time and discrete-time linear systems and signals; properties of linear systems; classical analysis methods and convolution; system analysis method for zero-state and zero-input response; Laplace transform and its application to linear system analysis; Fourier series expansion of periodic signals; Fourier transform and the steady-state response; application to analog filters, control and communication systems; solution of linear difference equations; z-transform analysis method; sampling theory; discrete-time Fourier transform and its application in digital filter design. Offered Every Term.

Prerequisites: ((ECE 3330 with a minimum grade of C-) AND (May be taken concurrently: [ECE 3040 with a minimum grade of C-] OR [BE 2550 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4340 Microcomputer-Based Instrumentation Laboratory Cr. 2

Multipurpose personal-computer-based approach to real time instrumentation. Current interfacing and software used for data acquisition, transmission, analysis and report writing. Offered Every Term.

Prerequisites: ((ECE 2610 with a minimum grade of C-) OR [ECE 3610 with a minimum grade of C-]) AND ((ECE 3570 with a minimum grade of C-) AND ((ECE 3330 with a minimum grade of C-))

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

ECE 4470 Control Systems I Cr. 4

System representations; feedback characteristics; time-domain characteristics; signal flow graph, Routh-Hurwitz criteria; Root Locus Plots; Nyquist criteria, Bode plots; PID, phase-lead and phase-lag controller design. Offered Every Term.

Prerequisite: ECE 4330 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4570 Fundamentals of Microelectronic Devices Cr. 4

Aspects of electrical properties of semiconductors, the physical electronics of P-N junction, bipolar, field effect transistors, and device fabrication technology essential to understanding semiconductor active devices and integrated circuits. Introduction to the behavior of semiconductor and electronics devices. Offered Every Term.

Prerequisites: ((ECE 3300 with a minimum grade of C-) AND ((MAT 2150 with a minimum grade of C-))

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4600 Capstone Design I Cr. 4

Design principles, subsystems of microcontrollers; designing products using microcontrollers, sensors and actuators. Offered Every Term.

Prerequisite: ENG 3050 with a minimum grade of C- and ECE 3620 with a minimum grade of C-

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4680 Computer Organization and Design Cr. 4

Introductory course. Instruction set design, basic processor implementation techniques, hardwired and microprogrammed control, performance analysis, memory hierarchy and cache design, pipelined processor design, I/O. Offered Yearly.

Prerequisites: ((BE 2100 with a minimum grade of C-) AND ((ECE 2610 with a minimum grade of C-) AND ((ECE 3620 with a minimum grade of C-))

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4700 Introduction to Communication Theory Cr. 4

Basic information transmission concepts. Spectral analysis. Transmission through linear networks. Sampling principles. Digital and analog communication signals and systems. The effect of noise in communication systems. Elementary decision theory. Offered Every Term.

Prerequisite: (BE 2100 with a minimum grade of C- or BE 3220 with a minimum grade of C-) and ECE 4330 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4800 Electromagnetic Fields and Waves I Cr. 4

Fundamentals of electromagnetic engineering, static electric and magnetic fields using vector analysis and fields of steady currents, Maxwell's equations and boundary value problems. Basic principles of plane waves, transmission lines and radiation. Offered Every Term.

Prerequisite: ECE 3330 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4850 Fiber Optics Cr. 4

Light-wave fundamentals, optical fibers and waveguides, basic optical transmitters and receivers, couplers and switches, basic fiber optic networks, optic link design. Offered Yearly.

Prerequisite: ECE 3330 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ECE 4990 Directed Study Cr. 1-4

Supervised study and instruction in a field selected by the student.
Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Repeatable for 4 Credits

ECE 5020 Matrix Computation I Cr. 4

Background matrix algebra; linear system sensitivity; basic transformations; Gaussian elimination; symmetric systems; positive definite systems; Householder method for least squares problems; unsymmetric eigenvalue problems; the QR algorithm. Offered Irregularly.
Prerequisites: ([BE 2550 with a minimum grade of C- and CSC 2110 with a minimum grade of C-])

Equivalent: CSC 6620

ECE 5100 Quantitative Physiology Cr. 4

The basic principles of human physiology presented from the engineering viewpoint. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models when feasible. Offered Winter.

Prerequisites: ([BME 5005 with a minimum grade of C] OR [BME 2010 with a minimum grade of C])

Equivalent: BME 5010, CHE 5100, IE 5100, ME 5100

ECE 5280 Introduction to Cyber-Physical Systems Cr. 3

Topics include: modeling, design, analysis, and implementation of cyber-physical systems; dynamic behavior modeling, state machine composition, and concurrent computation; sensors and actuators; embedded systems and networks; feedback control systems; temporal logic and model checking. Offered Fall, Winter.

Prerequisites: ([CSC 3100 with a minimum grade of C- and CSC 3110 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: CSC 5280

ECE 5330 Modeling and Control of Power Electronics and Electric Vehicle Powertrains Cr. 4

Basic methodologies for modeling, control system design of renewable power sources and power electronics systems. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5330, EVE 5430

ECE 5370 Mechatronic System Design I Cr. 4

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. Offered Fall.

Prerequisites: ([ECE 4600])

Equivalent: BME 5530

ECE 5380 Mechatronic System Design II Cr. 4

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. Offered Winter.

Prerequisites: ([ECE 4600])

Equivalent: BME 5540

ECE 5410 Power Electronics and Control Cr. 4

Control of electric energy using power electronic semiconductor devices; mathematical analysis of circuits containing these devices; design, modeling and control of power converters; applications of power electronic converters. Offered Spring/Summer.

Prerequisites: ([ECE 4330 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

Equivalent: EVE 5410

ECE 5425 Introduction to Robotic Systems Cr. 4

Introduction to robot kinematics and control. Computational algorithms for robot movement, sensor fusion, and intelligent behavior, which are needed to build a system that performs actions and interacts with its environment. Offered Fall.

Prerequisites: ([BE 2550 with a minimum grade of D-] OR [BE 1500 with a minimum grade of D-] OR [BME 5020 with a minimum grade of D-] OR [ECE 3040 with a minimum grade of D-])

ECE 5430 Electric Energy Systems Engineering Cr. 4

Transmission capacity, load characteristics, power frequency control. Energy system component analysis and modeling. Steady-state analysis, load-flow problem and algorithms, optimal dispatch. Transient stability by simulation and direct methods. Offered Irregularly.

Prerequisites: ([ECE 4330 with a minimum grade of C-])

ECE 5440 Computer-Controlled Systems Cr. 4

Introduction to z-transform and sampling theory. Digital controller design using both transfer function techniques and state space methods. Implementation aspects of computer-controlled systems. Offered Yearly.

Prerequisites: ([ECE 4470 with a minimum grade of C-] OR [CHE 4600 with a minimum grade of C-] OR [ME 5540 with a minimum grade of C-])

ECE 5460 Stochastic Processes in Engineering Cr. 4

Elements of probability theory. Random variables. Random sequences. Convergence concepts, limit theorems and sampling. Gaussian processes and Brownian motion. Martingales and Markov Processes. Frequency-domain analysis. White noise representations. Sampling Theorem. Wiener Filtering. Recursive Filtering. Linear and nonlinear differential systems. Likelihood ratios and applications. Offered Biannually.

Prerequisites: (1 of ECE 4330, ME 5000) AND ([IE 3220 with a minimum grade of C-])

ECE 5470 Control Systems II Cr. 4

State space representation of systems; stability and Liapunov methods, controllability and observability, pole placement design using state feedback, observer design, optimal control, linear quadratic regulators, Kalman filter. Offered Yearly.

Prerequisites: ([ECE 4470 with a minimum grade of C-])

ECE 5550 Solid State Electronics Cr. 4

Physical basis for the opto-electric properties of solids with particular emphasis on semiconductors. Basic principles associated with solid-state devices. Extrinsic and intrinsic semiconductors. Behavior of P-N junctions, bi-polar and field-effect transistors. PC-based simulation of device characteristics using the PC1D simulator. Offered Every Term.

Prerequisites: ([ECE 4570 with a minimum grade of C- and ECE 4800 with a minimum grade of C-])

ECE 5575 Introduction to Micro and Nano Electro Mechanical Systems (MEMS/NEMS) Cr. 4

General and specialized micro/nanofabrication techniques; basic sensing and actuating mechanisms (piezoresistive, piezoelectric, capacitive, electrostatic, thermal pneumatic, etc.); and design and operation of various MEMS/NEMS devices for automotive and biomedical applications; fabrication and characterization of basic MEMS structures. Offered Winter.

ECE 5610 Introduction to Parallel and Distributed Systems Cr. 4

Fundamentals of parallels and distributed systems. Programming experience in both computing environments. Offered Yearly.

ECE 5620 Embedded System Design Cr. 4

Microcontroller architecture and its subsystems. Wired and wireless protocols for vehicular networking applications. Design and implementation of real-time embedded systems. Offered Every Term.

Prerequisites: ((ECE 4600 with a minimum grade of C-))

ECE 5650 Computer Networks and Programming Cr. 4

Fundamentals of computer networks. TCP/IP and Internet protocols. Mobile and wireless networking. Network programming. Offered Every Term.

Prerequisites: ((ECE 4050 with a minimum grade of C-))

ECE 5680 Computer-Aided Logical Design and FPGAs Cr. 4

Topics include: review of digital design; advanced applications of Boolean algebra techniques; Computer-Aided Logical Design for large Boolean functions and simplification; threshold function; linear sequential machines; design using Verilog and FPGAs; introduction to cadence. Offered Winter.

ECE 5690 Introduction to Digital Image Processing Cr. 4

Provide college engineering seniors and first-year graduate students with introductory preparation in mathematical analysis, vectors, matrices, probability, statistics, sequences and series, and computer programming. Includes concepts of digital image processing from an operational perspective with good exposure to theory, accessibility of DIP to engineering, and a detailed review of current techniques. Offered Fall.

Prerequisites: ((BE 2100 with a minimum grade of C-, ECE 4050 with a minimum grade of C-, and ECE 4330 with a minimum grade of C-))

ECE 5700 Digital Communications Cr. 4

Digital modulators and demodulators, M-ary PSK, M-ary FSK, optimal receiver for AWGN channel. correlator receiver, matched filter receiver, analysis of probability of bit errors for digital communication systems, Shannon limit, simulation of digital communication system. Offered Irregularly.

Prerequisites: ((ECE 4700 with a minimum grade of C-))

ECE 5770 Digital Signal Processing Cr. 4

Analysis of discrete signals and systems. Applications to digital filtering, active filters, digital communication and encoding. Offered Yearly.

Prerequisite: ECE 4700 with a minimum grade of C-

ECE 5870 Optical Communication Networks Cr. 4

Laser and detectors; modulation and demodulation; optical transmitters and receivers; optical filters; optical amplifiers; architecture and network control; multi-access networks; FDDI networks, SONET/SDH, ATM, system performance. Offered Yearly.

Prerequisite: ECE 4700 with a minimum grade of C- and ECE 4850 with a minimum grade of C-

ECE 5990 Directed Study Cr. 1-4

Supervised study and instruction in the field selected by the student. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ECE 5995 Special Topics in Electrical and Computer Engineering I Cr. 1-4

Special subject matter in electrical and computer engineering. Topics to be announced in Schedule of Classes. Offered Every Term.

Repeatable for 8 Credits

ECE 6100 Enabling Technology Cr. 3,4

Principles of application of enabling technology: across life stages, for differing ethnic and cultural backgrounds, for individuals with varying functional abilities. Offered Yearly.

Equivalent: BME 6500

ECE 6180 Biomedical Instrumentation Cr. 4

Engineering principles of physiological measurements, signal conditioning equipment, amplifiers, recorders and transducers. Recent advances in instrumentation. Offered Winter.

Prerequisites: (1 of BME 5010, BMS 6550) AND ([BME 5020 with a minimum grade of C- and ECE 3300 with a minimum grade of C-])

Equivalent: BME 6480, IE 6180, ME 6180

ECE 6570 Smart Sensor Technology I: Design Cr. 4

Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 6470, PHY 6570

ECE 6660 Introduction to VLSI Systems Cr. 4

Survey of very large scale integrated circuit components and design procedures. MOS fabrication, MOS gates, circuit architecture, device design, manufacturing and interface techniques. Offered Yearly.

Prerequisite: ECE 4680 with a minimum grade of C-

Course Material Fees: \$30

ECE 6991 Industrial Internship Cr. 1-4

Internship experience that satisfies the curricular practical training requirements. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ECE 7030 Mathematical Methods in Engineering I Cr. 4

Introduction to functional analysis. Banach and Hilbert spaces. Fixed-point and projection theorem techniques. Approximation, estimation, and optimization theory. Applications to numerical and error analysis, non-linear equations, and modeling system identification. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7100 Mathematical Modeling in Impact Biomechanics Cr. 3-4

Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.

Prerequisite: ECE 5100 with a minimum grade of C or BMS 6550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7100, IE 7100, ME 7100

ECE 7160 Impact Biomechanics Cr. 4

Biomechanical response of the body regions and the whole body to impact. Mechanisms of injury in blunt impact. Effects of restraints on injury reduction. Development of test surrogates such as dummies. Offered Fall.

Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

Equivalent: BME 7160, ME 7160

ECE 7400 Medical Robotics and Systems Cr. 4

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. Offered Winter.

Prerequisite: ECE 5020 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: BME 7400

ECE 7420 Nonlinear Control Systems Cr. 4

Provide examples of nonlinear dynamical control systems, perform system analysis using phase-portrait, and examine stability using Lyapunov's direct method and invariant set theorems (local and global stability). Introduce describing function method, feedback linearization technique, internal dynamics, and zero-dynamics. Design nonlinear robust controllers. Offered Winter.

Prerequisite: ME 5550 with a minimum grade of C or ECE 5470 with a minimum grade of C or ECE 5440 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ME 7590

ECE 7430 Control of Discrete Event Systems Cr. 4

Automation model of discrete event systems; formal languages and regular expressions; supervisory control; controllability and observability; decentralized control and co-observability; timed discrete event systems; performance analysis; applications to manufacturing systems and power systems. Offered Biannually.

Prerequisite: ECE 5440 with a minimum grade of C or ECE 5470 with a minimum grade of C or ME 5550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7440 Dynamic Systems and Optimal Control Cr. 4

Formulation of optimal control problems. Pontryagin's maximum principle and necessary conditions for optimality, with applications. Dynamic programming; Hamilton-Jacobi equation; optimal feedback control. Offered Irregularly.

Prerequisite: ECE 5440 with a minimum grade of C or ECE 5470 with a minimum grade of C or ME 5550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7570 Smart Sensor Technology II: Characterization and Fabrication Cr. 4

Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Offered Winter.

Prerequisite: ECE 6570 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$50

Equivalent: BME 7470, PHY 7580

ECE 7590 Biomedical Microsystems Cr. 4

Biomedical microsystems, with a focus on microfluidics and lab-on-a-chip technologies for medical diagnostics and biological research. Broad coverage of microscale physics; microfabrication methods; separation, purification, and other on-chip processes; biosensing. Offered Fall.

Prerequisite: ECE 5575 with a minimum grade of C or ECE 6570 with a minimum grade of C or BME 6470 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7490, CHE 7490

ECE 7610 Advanced Parallel and Distributed Systems Cr. 4

Advanced topics in parallel and distributed computing, multicore and parallel architecture, communication, synchronization, parallel algorithms and programming, load balancing and scheduling, security. Offered Winter.

Prerequisite: ECE 5610 or ECE 5650

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7650 Scalable and Secure Internet Services and Architecture Cr. 4

Advanced principles of distributed and cloud computing systems, the Internet, Internet server and data center, content delivery networks, performance scalability, energy-aware resource management, security and privacy, cost-effective engineering design. Offered Winter.

Prerequisite: ECE 5610 with a minimum grade of C and ECE 5650 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7660 Parallel Computer Architecture Cr. 4

Review of parallel computer architectures, including symmetric multiprocessors and scalable machines. Parallel software basics for various architectures. Fundamental issues including cache coherence, interconnection network, and synchronization; influence of these on performance of applications. Offered Yearly.

Prerequisite: ECE 5610 with a minimum grade of C and ECE 5620 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7680 Advanced Digital Image Processing and Applications Cr. 4

Advanced aspects, algorithms, methods in digital image processing and their corresponding applications in different fields. Students develop comprehensive skills and knowledge in digital image processing. Offered Yearly.

Prerequisite: ECE 5690 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7690 Fuzzy Systems Cr. 4

From basic fuzzy set theory to advanced topics such as neuro-fuzzy systems. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7700 Statistical Communication Theory Cr. 4

Decision theory, binary decisions with single and multiple observations, signals in additive Gaussian noise, sequential decision theory, estimation theory, Kalman filtering. Offered Yearly.

Prerequisite: ECE 5700 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7730 Telematics Cr. 4

Introduction to automotive telematics, mobile communication channels, error correction, automatic crash response, vehicle diagnostics, vehicle tracking, vehicle safety, navigation, and current topics in telematics. Offered Winter.

Prerequisites: ([ECE 5700 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7740 Medical Imaging Systems Cr. 3

Exposes students to the world of medical and biomedical imaging with emphasis on principles, approaches and applications of each modern imaging modality. Basic knowledge of MATLAB programming language is required. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7730

ECE 7850 Fiber and Integrated Optics Cr. 4

Discussion of geometric optics and ray propagation in optical fibers. Extension to physical optics and Maxwell's equations. Analysis of mode coupling and graded index fibers. Integrated optical waveguides: dielectric slabs and integrated optic networks. Coupling phenomenon, light sources, and detectors. Photon statistics and their relation to bit error rates. Power budgets, fan-in, and fan-out as applied to data link design. Offered Yearly.

Prerequisite: ECE 5870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECE 7990 Directed Study Cr. 1-8

Supervised study and instruction in an advanced topic. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

ECE 7995 Special Topics in Electrical and Computer Engineering II Cr. 1-4

A consideration of special subject matter in electrical and computer engineering. Topics to be announced in Schedule of Classes. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

ECE 7996 Research Cr. 1-8

Design, investigation and experimental work on some phase of electrical and computer engineering. Written report required. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ECE 8570 Smart Sensor Technology Seminar Cr. 1

Technological advances. Interaction of research experience in smart sensors and integrated devices. Offered Winter.

Prerequisite: ECE 6570 with a minimum grade of C and ECE 7570 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 8470

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ECE 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ECE 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ECE 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ECE 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

ECE 9997 Doctoral Seminar Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ECO - ECONOMICS

ECO 1000 Survey of Economics Cr. 4

Scope of economics and the task of the economist in modern society; the market economy, its evolution and development; non-market economies; economic problems and prospects in the contemporary world. Not for ECO major or minor credit. Offered Every Term.

ECO 2010 Principles of Microeconomics Cr. 4

Supply, demand, price at the level of the firm and industry; business institutions and their operation; determinants of wage and salary levels, interest rates, rent, profits, income distribution; public policy in relation to business and labor. Offered Every Term.

ECO 2020 Principles of Macroeconomics Cr. 4

Determination of national income, consumption and saving, and investment; money, banking and the Federal Reserve; inflation and unemployment; monetary and fiscal policy; economic growth and productivity; the international sector. Offered Every Term.

ECO 3990 Directed Study Cr. 1

For the student who shows evidence of ability and interest in economic study and who desires opportunity for advanced reading in a special field. Arrange with advisor. Offered Every Term.

Prerequisites: ((ECO 1000 with a minimum grade of B) OR [ECO 1000 with a minimum grade of B] OR [ECO 1000 with a minimum grade of B] OR [ECO 1000 with a minimum grade of B])

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Economics or Economics Honors.

Repeatable for 2 Credits

ECO 4991 Research in Economics Cr. 3-12

Economic research on an appropriate topic of the student's choice, conducted under faculty supervision. Does not count toward 32-credit requirement for the ECO major. Offered Every Term.

Prerequisites: ((ECO 1000 with a minimum grade of B) OR [ECO 1000 with a minimum grade of B] OR [ECO 1000 with a minimum grade of B] OR [ECO 1000 with a minimum grade of B])

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Economics or Economics Honors.

Repeatable for 12 Credits

ECO 4995 Venture Capital, Entrepreneurship and Impact Investing Cr. 1

Provides an insider's look at the venture capital industry, entrepreneurship, and social impact investing. Presents a broad overview of the types of background knowledge needed to launch a company, engage in social impact investing, and/or to become a venture capitalist. Participation in this course will help students develop their analytical and decision making skills as well as their presentation skills. The final class project will be an investor pitch contest presented during the last week of class. Offered Yearly.

ECO 4997 Senior Honors Research Cr. 4

Individually arranged meetings with faculty member to discuss research methodology and readings in areas of research selected by instructor. A senior honors essay of a length proportionate to the selected topic will be required. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Economics Honors; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts degree.

ECO 5000 Intermediate Microeconomics Cr. 4

Theory of the firm and consumer. Analysis of a price system as a means to efficient allocation of productive resources. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((ECO 2010 with a minimum grade of C) AND ([MAT 1500 with a minimum grade of C])

ECO 5020 Fundamentals of Economic Analysis I Cr. 4

This course assumes good knowledge of first semester calculus, and teaches additional mathematics necessary for Ph.D. study in economics, and (to a lesser extent) teaches some economic implications; course content includes: matrices, vectors and linear algebra; partial and total derivatives; scalar and vector functions; Jacobian derivative matrices and determinants; implicit function theorem; derivatives of implicit functions with one or more endogenous variables; unconstrained maximization with two or more variables; Lagrangians and constrained maximization; envelope theorem; differential and difference equations, and systems of differential and difference equations. Offered for undergraduate credit only. Offered Fall.

Prerequisites: ((ECO 5000 with a minimum grade of C) AND ([MAT 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5030 Microeconomic Theory Cr. 4

Theory of choice, theory of cost and production, theory of the competitive form. Price and output in non-competitive markets, general competitive equilibrium and welfare economics. Offered Yearly.

Prerequisites: ((MAT 2010 with a minimum grade of C-) OR [MAT 5010 with a minimum grade of C-]) AND ([MAT 2020 with a minimum grade of C-]) AND ([ECO 5000 with a minimum grade of C-]) AND ([ECO 5020 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5050 Intermediate Macroeconomics Cr. 4

Theory of national income determination. National output and income, saving and capital formation. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((MAT 1500 with a minimum grade of C) AND ([ECO 2020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5100 Introductory Statistics and Econometrics Cr. 4

Elementary probability theory, discrete and continuous probability distribution, sampling distribution, interval estimation, hypothesis testing, and estimation and inference in simple and multiple regression models. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((ECO 2010 with a minimum grade of C) AND ([ECO 2020 with a minimum grade of C]) AND ([MAT 1500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5200 Regulation and Regulated Industries Cr. 4

Transportation economics. Regulation of transportation as an example of public control of business; the rationale for having public regulation, and the analysis of its economic effects; reform of the scope and practice of regulation; public ownership; regulation of occupational and product safety standards and environmental standards. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((ECO 2010 with a minimum grade of C)

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5210 Market Power and Economic Welfare Cr. 4

Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress. Case studies. Selected topics in antitrust policy. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([MAT 1500 with a minimum grade of C] OR [MAT 1800 with a minimum grade of C] OR [MAT 2010 with a minimum grade of C]) AND ([ECO 2010 with a minimum grade of C]) AND ([ECO 5000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5230 Environmental Economics Cr. 4

Externalities as the cause of environmental degradation and climate change. Externality in turn results from the failure of the market to develop prices that reflect the full global cost of production and consumption. The course also pays attention to normative issues. The population over which the normative issues are defined may include animals, plants and inanimate objects. Behavioral economics, in particular, will be brought to bear on the discussion throughout the course. Offered Fall, Winter.

Prerequisites: ([ECO 1000 with a minimum grade of D-] OR [ECO 2010 with a minimum grade of D-])

ECO 5250 Economic Analysis of Law Cr. 4

Economic analysis of property rights, torts, contracts, criminal law, the law of business organizations and financial markets, and the law of taxation. Economic analysis of litigation; the use of economics and statistics in litigation. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5270 Games of Strategy Cr. 4

Game theory studies how individuals, groups and firms make their decisions strategically when their actions affect each other. Introductory course with emphasis on applications to firms and markets. Standard concepts such as games with sequential moves, simultaneous moves, pure and mixed strategies, uncertainty, and repetition. Special topics include bargaining, strategic innovation, cooperative pricing, contract designs, incentive mechanisms, bidding, and auctions. Students do not need to know calculus to follow the lectures. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([MAT 1500 with a minimum grade of C] OR [MAT 1800 with a minimum grade of C] OR [MAT 2010 with a minimum grade of C]) AND ([ECO 2010 with a minimum grade of C]) AND ([ECO 5000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5300 International Trade Cr. 4

Factors in international relations; patterns of international specialization; balance of international payments; foreign exchange; commercial policy of United States and other countries; foreign investment and economic development; international economic cooperation. Offered for undergraduate credit only. Offered Fall.

Prerequisites: ([ECO 5000 with a minimum grade of C]) AND ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5310 International Finance Cr. 4

Major policy issues in the field of international finance with emphasis on open economy macroeconomics. Topics include the balance of payments and the foreign exchange market; monetary and fiscal policies in open economies; the floating exchange rate system; international financial markets; and European monetary integration. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([MAT 1500 with a minimum grade of C] OR [MAT 1800 with a minimum grade of C]) AND ([ECO 2020 with a minimum grade of C]) AND ([ECO 5050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5400 Labor Economics Cr. 4

Economics of labor markets. Determinants of earnings and methods of compensation, labor supply and demand, effects of taxes and subsidies on labor supply, choices of occupation and level of schooling, promotion and turnover, employment discrimination, economics of crime and punishment, regulation of professions, unions. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Labor Studies; enrollment is limited to Undergraduate level students.

ECO 5410 Economics of Race and Gender Cr. 4

Theory and empirical evidence of race and gender differentials in the labor market. Topics include the difference in occupations and earnings, discrimination, poverty, and public policies. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5470 Economics of an Aging Society Cr. 4

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. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([MAT 1500 with a minimum grade of C] OR [MAT 1800 with a minimum grade of C] OR [MAT 2010 with a minimum grade of C]) AND ([ECO 2010 with a minimum grade of C]) AND ([ECO 5000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5480 Economics of Work Cr. 3

Theoretical and empirical treatment of: labor market characteristics; labor demand and supply; issues of race, gender, and age; compensation and pay; issues of health and productivity; bargaining processes and the effects of unions; unemployment and job search; globalization. No economics major or minor credit. Offered Yearly.

Prerequisites: ([ECO 2010 with a minimum grade of C] OR [ECO 2020 with a minimum grade of C] OR [ECO 1000 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the BA in Labor Studies program; enrollment is limited to Undergraduate level students.

ECO 5490 American Labor History Cr. 4

Development of the American labor movement; its behavior in the contemporary scene. Labor's experiments with social, political, legal, and economic institutions. Comparisons with foreign labor movements. Offered for undergraduate credit only. Offered Biannually.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 5290

ECO 5500 Public Finance Cr. 4

Role of government in a market economy: sources of market failure; public goods and externalities; principles of taxation and expenditures; tax incidence; federal tax structure; selected government expenditure programs. Offered for undergraduate credit only. Offered Fall, Spring/Summer.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5520 State and Local Public Finance Cr. 4

Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5550 Economics of Health Care Cr. 4

Allocation of health care resources, with respect to demand and supply of health care. Role of hospitals, physicians, and health insurance; market imperfections and their role in the economics of health care. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ECO 2010 with a minimum grade of C])

ECO 5600 Introduction to Development Economics Cr. 4

National poverty and economic growth viewed from a historical and theoretical perspective; particular emphasis on national and international policies. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5700 Money and Banking Cr. 4

Role of the Federal Reserve System, the commercial banks, and the non-bank public (including financial intermediaries) in determining the money supply; central banking and techniques of monetary control; indicators and targets of monetary policy; and how money affects economic activity. Offered Fall, Winter.

Prerequisites: ([MAT 1500 with a minimum grade of C] OR [MAT 1800 with a minimum grade of C]) AND ([ECO 2020 with a minimum grade of C]) AND ([ECO 5050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5720 Financial Economics Cr. 4

Fundamentals of investments: investment and financial markets, theoretical models of investment theory including efficient market hypothesis (EMH) and capital asset pricing model (CAPM); characteristics and analysis of stocks, bonds, and portfolios; equity evaluation through financial statements, industry analysis, and macroeconomic analysis; and advanced topics in either derivative assets (futures and options) or international investments. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ([ECO 2010 with a minimum grade of C]) AND ([ECO 2020 with a minimum grade of C]) AND ([ECO 5050 with a minimum grade of C]) AND ([MAT 1500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5800 Urban and Regional Economics Cr. 4

Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ECO 2010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: UP 5820

ECO 5993 Writing Intensive Course in Economics Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [ECO 5000 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 6000 Price and Allocation Theory Cr. 4

Introduction to the theory of consumer choice and the theory of production, and other selected topics. Primarily for M.A. students and for Ph.D. students who want to review. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior.

ECO 6050 Macroeconomics Cr. 4

Determination of national income, unemployment and interest rates; theories of inflation; effectiveness of macroeconomic public policies. Primarily for M.A. students and for Ph.D. students who want to review. No credit after ECO 7050. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6100 Introduction to Econometrics Cr. 4

Basic statistics, basic probability, hypothesis testing, and bivariate and multivariate regression analysis. Estimators studied are least squares, maximum likelihood and generalized least squares. Various model specification issues addressed: omitted variables, extraneous variables, category variables, multicollinearity, heteroscedasticity, and autocorrelation. Offered Fall.

ECO 6200 Advanced Regulation and Regulated Industries Cr. 4

Transportation economics. Regulation of transportation as an example of public control of business; the rationale for having public regulation, and the analysis of its economic effects; reform of the scope and practice of regulation; public ownership; regulation of occupational and product safety standards and environmental standards. No credit after ECO 5200. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6210 Advanced Market Power and Economic Welfare Cr. 4

Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress. Case studies. Selected topics in antitrust policy. No credit after ECO 5210. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6250 Advanced Economic Analysis of Law Cr. 4

Economic analysis of property rights, torts, contracts, criminal law, the law of business organizations and financial markets, and the law of taxation. Economic analysis of litigation; the use of economics and statistics in litigation. Advanced mathematical analysis of selected topics. No credit after ECO 5250. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6300 Advanced International Trade Cr. 4

Factors in international relations; patterns of international specialization; balance of international payments; foreign exchange; commercial policy of United States and other countries; foreign investment and economic development; international economic cooperation. Advanced mathematical analysis of selected topics. No credit after ECO 5300. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6310 Advanced International Finance Cr. 4

Major policy issues in the field of international finance with emphasis on open economy macroeconomics. Topics include the balance of payments and the foreign exchange market; monetary and fiscal policies in open economies; the floating exchange rate system; international financial markets; and European monetary integration. Advanced mathematical analysis of selected topics. No credit after ECO 5310. Offered for graduate credit only. Offered Yearly.

Prerequisite: ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6400 Advanced Labor Economics Cr. 4

Economics of labor markets. Determinants of earnings and methods of compensation, labor supply and demand, effects of taxes and subsidies on labor supply, choices of occupation and level of schooling, promotion and turnover, employment discrimination, economics of crime and punishment, regulation of professions, unions. Advanced mathematical analysis of selected topics. No credit after ECO 5400. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6415 Advanced Economics of Race and Gender Cr. 4

Theory and empirical evidence of race and gender differentials in the labor market. Topics include the difference in occupations and earnings, discrimination, poverty, and public policies. Advanced mathematical analysis of selected topics. No credit after ECO 5410. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6420 Labor Relations and Public Policy Cr. 3

Overview of labor force trends; U.S. unionism; management of labor relations; collective bargaining: procedure and substance; bargaining power in the private and public sectors. Comparative trends and principles in industrial relations systems of other societies also examined. Offered for graduate credit only. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6455 Discrimination and Fair Housing Cr. 3

Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Biannually.

Equivalent: AFS 6455, PS 6455, SOC 6455, UP 6455, US 6455

ECO 6480 Advanced Economics of Work Cr. 3

Theoretical and empirical treatment of: labor market characteristics; labor demand and supply; issues of race, gender, and age; compensation and pay; issues of health and productivity; bargaining processes and the effects of unions; unemployment and job search; globalization. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students in the MA in Employ & Labor Relations program; enrollment is limited to Graduate level students.

ECO 6510 Advanced Public Finance Cr. 4

Role of government in a market economy: sources of market failure—public goods and externalities; principles of taxation and expenditures; tax incidence; federal tax structure; selected government expenditure programs. Advanced mathematical analysis of selected topics. No credit after ECO 5500. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6520 Advanced State and Local Public Finance Cr. 4

Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Advanced mathematical analysis of selected topics. No credit after ECO 5520. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: UP 6750

ECO 6550 Advanced Economics of Health Care Cr. 4

Allocation of health care resources, with respect to demand and supply of health care. Roles of hospitals, physicians, and health insurance; market imperfections and their role in the economics of health care. Advanced mathematical analysis of selected topics. No credit after ECO 5550. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6600 Advanced Development Economics Cr. 4

National poverty and economic growth viewed from a historical and theoretical perspective; particular emphasis on national and international policies. Advanced mathematical analysis of selected topics. No credit after ECO 5600. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6650 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3

Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PS 6440, UP 6550

ECO 6700 Advanced Money and Banking Cr. 4

Role of the Federal Reserve System, the commercial banks, and the non-bank public (including financial intermediaries) in determining the money supply; central banking and techniques of monetary control; indicators and targets of monetary policy; and how money affects economic activity. Advanced mathematical analysis of selected topics. Offered for graduate credit only. Offered Yearly.

Prerequisite: ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ECO 6800 Advanced Urban and Regional Economics Cr. 4

Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Advanced mathematical analysis of selected topics. No credit after ECO 5800. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ECO 7000 Microeconomic Theory I Cr. 4

Theory of choice; theory of cost and production; theory of the competitive firm. Price and output in non-competitive markets. General competitive equilibrium and welfare economics. Offered Winter.

Prerequisite: ECO 7020 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7010 Microeconomic Theory II Cr. 4

Continuation of ECO 7000. Includes general equilibrium analysis and game theory. Offered Fall.

Prerequisite: ECO 7000 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7020 Fundamentals of Economic Analysis I Cr. 4

This course assumes sound knowledge of first and second semester calculus, and teaches additional mathematics necessary for Ph.D. study in economics, and covers additional mathematics necessary for Ph.D. study in mathematics, and to a lesser extent some economic implications. Course content includes: matrices, vectors and linear algebra; partial and total derivatives; scalar and vector functions; Jacobian derivative matrices and determinants; implicit function theorem; derivatives of implicit functions with one or more endogenous variables; unconstrained maximization with two or more variables; Lagrangians and constrained maximization; envelope theorem; differential and difference equations, and systems of differential and difference equations. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7021 Fundamentals of Economic Analysis II Cr. 4

Mathematical methods specific to macroeconomics and econometrics. Applications of matrix operations, distribution functions, estimation methods, difference equations, differential equations, inter-temporal optimization, calculus of variations, control theory. Offered Fall.

Corequisite: ECO 7020

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7050 Macroeconomic Theory I Cr. 4

Determination of national income, employment, interest rates and the price level; static and dynamic models; cycle and growth models; classic, Keynesian and neo-Keynesian models. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7060 Macroeconomic Theory II Cr. 4

Mathematical and statistical methods: differential and difference analysis. Intertemporal economic theory: the household, the firm, and economic growth. Overlapping generations models and the Ricardian theory of government finance. Theories of the business cycle: real business cycle models, Keynesian and New Classical theories of the business cycle. Offered Fall.

Prerequisite: ECO 7050 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7100 Econometrics I Cr. 4

Probability and statistics: moment generating functions, common families of statistical distributions, multiple random variables and properties of a random sample. Estimation and hypothesis testing: method of moments, generalized method of moments, maximum likelihood estimators, instrumental variable estimators, Bayes estimators, likelihood ratio tests, finite sample properties and asymptotic properties of OLS. Offered Fall.

Prerequisite: ECO 6100 with a minimum grade of C and ECO 7020 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7110 Econometrics II Cr. 4

Modeling and estimation: generalized least squares, panel data models (fixed effects and random effects), system of equations (endogeneity, identification), models with discrete dependent variables (probit, logit), models with limited dependent variables (truncation, censoring), stationary time-series (ARMA), vector-autoregression (VAR, VMA), non-stationary time-series (unit roots, cointegration). Offered Winter.

Prerequisite: ECO 7100 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7120 Econometrics III Cr. 4

Advanced economic techniques in microeconomics and macroeconomics. In the first half of the course, emphasis on specification, estimation, interpretation, and testing of microeconomic models. The second half will cover statistical models for the analysis of economic time series data, with applications in macroeconomics and finance. Offered Yearly.

Prerequisite: ECO 7100 with a minimum grade of C and ECO 7110 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7200 Industrial Organization I Cr. 4

Theories of competition and market power. Topics include concentration, scale economies, product differentiation, entry barriers, collusion, mergers, price discrimination, information, and advertising. Offered Biannually.

Prerequisite: ECO 6000 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7210 Industrial Organization II Cr. 4

Economic analysis of antitrust policy and public regulation of industry. Rationale for regulation and mandates of various regulatory agencies. Problems in public utility rate-making. Misallocations induced by regulation. Role of competition in regulated industries. Offered Biannually.

Prerequisite: ECO 6000 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7300 International Trade Theory Cr. 4

Classical and modern models of the determinants of international trade and their empirical verification; impact of trade on earnings of production factors; economic analysis of various trade policy instruments; strategic trade policy; economic analysis of international trade rules and institutions; political economy of trade policy. Offered Biannually.

Prerequisite: ECO 6000 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7310 International Monetary Theory Cr. 4

Foreign exchange rate and balance of payments adjustment theory under alternative exchange rate regimes; stabilization policies in open economies; financial capital movements; monetary unions; economic growth and the balance of payments. Offered Biannually.

Prerequisite: ECO 6050 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7400 Labor Economics and Human Resources Cr. 4

Labor force participation and composition; factors affecting wage levels (money and real) and wage structure. Theoretical and empirical analyses of occupational choice, labor mobility, promotion, turnover, unemployment, the effects of taxation, retirement and income inequality. Offered Biannually.

Prerequisite: ECO 6000 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7410 Economics of Human Resources Cr. 4

Theoretical and empirical analyses of labor supply and family allocation of time; the return to education; role of general and firm-specific human capital and job mobility in wage growth over a career; race and gender differences in the labor market; intergenerational transfers and mobility. Offered Biannually.

Prerequisite: ECO 6000 with a minimum grade of C and ECO 6100 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7550 Economics of Health Care I Cr. 4

Basic introduction to health care economics including allocation of health care resources, economics of information, and the role of advertising. No credit after ECO 5550. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7560 Economics of Health Care II Cr. 4

Particular roles of hospitals, physicians, and health insurance in the economy. Analysis of government policies. No credit after ECO 5550. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7700 Advanced Macroeconomics I Cr. 4

For Ph.D. students who wish to take 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. Offered Biannually.

Prerequisite: ECO 7050 and ECO 7060

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7710 Advanced Macroeconomics II Cr. 4

Continuation of ECO 7700. Offered Biannually.

Prerequisite: ECO 7050 and ECO 7060

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

ECO 7996 Research in Economics Cr. 2-8

Open to qualified students who desire opportunity for research and directed study. May be conducted as seminar. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Economics; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

Repeatable for 16 Credits

ECO 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ECO 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ECO 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ECO 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

ED - EDUCATION

ED 3990 Directed Study Cr. 1-6

Offered Every Term.

Repeatable for 6 Credits

ED 5998 Field Studies Cr. 1-8

Supervised professional study in field settings. Offered Every Term.

Repeatable for 8 Credits

ED 7990 Directed Study Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ED 7996 Directed Research Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 16 Credits

ED 7998 Field Studies Cr. 1-8

Supervised professional study in field situations. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 16 Credits

ED 7999 Terminal Master's Seminar and Essay or Project Cr. 3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

ED 8999 Master's Thesis Research and Seminar Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ED 9989 Doctoral Dissertation Research and Direction Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 30 Credits

ED 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ED 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ED 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ED 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

EDA - EDUCATIONAL ADMINISTRATION

EDA 7600 The Structure of American Education Cr. 2

Major organizational, financial, administrative, legal and extra-legal problems affecting public education in the United States. Role of the educator in effecting change. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7625 Leadership, Administration and the Principalship Cr. 4

Provides a conceptual framework of the administrative process; examines interrelationships between the person, the job, the organizational setting, and the wider social context of education; examines the ways in which political, social and economic factors influence administrative decision making and leadership. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 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. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7640 The Elementary School Principalship Cr. 4

For experienced teachers and administrators entering the field of elementary school administration. Research findings and sources of information in the field. The principal's role in instructional leadership. A concurrent field experience is required with the lecture component of this course; specifications are provided in the course syllabus. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7650 Secondary School Administration Cr. 4

Organization and administration of middle, junior and senior high schools. Analysis of administrative problems relating to curriculum improvement, staff personnel, guidance, instruction, school-community relations, and student activities. A concurrent field experience is required with the lecture component of this course; specifications are provided in the course syllabus. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7660 Administrative Leadership in School-Community Relations and Public Relations Cr. 3

Relationships between the school and the community; special reference to social change, community needs and the total school program; demographic and public relations techniques for school improvement, program development in special area, and millage campaigns in the context of the structure, function, and organization of the total educational system in a multicultural and pluralistic society. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7670 Economic Issues in Education Cr. 4

Economic issues in education at the local, intermediate, state, and federal levels. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7675 Public School Finance and Budgeting Cr. 4

Elementary and secondary public school finance and budgeting: legal foundations of school funding, how revenue is raised and distributed by states, the ways resources are allocated at the local district and school levels. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7690 Introduction to Michigan School Law Cr. 4

Constitutional and legal factors affecting Michigan public education. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7800 Administration and Supervision of Special Education Cr. 4

Professional problems; standards and procedures; references to history, development, philosophy, legal provisions, rules and regulations; major developments and trends at federal, state and local levels; services of other organizations and agencies. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7810 Michigan Special Education Law Cr. 4

Implications of statutes and regulations undergirding the education of the handicapped; educator's role in implementing, monitoring and influencing state and federal mandates for special education. Offered Winter.

Prerequisite: EDA 7800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7820 Emergent Policies in Special Education Administration Cr. 2

Discussion of research and literature relating to changing and emergent policies. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 7830 Practicum in Special Education Administration and Supervision Cr. 3-6

Supervised field-based experiences or individualized and contracted plan of supervised field study for special education administrators, curriculum resource consultants, supervisors, administrative consultants, and project directors. Multi-level practicum sites arranged. Offered Every Term.

Prerequisite: EDA 7800 with a minimum grade of C and EDA 7810 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

EDA 8620 School Personnel Administration Cr. 4

Analysis of the personnel function in educational administration. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 8630 Supervision Cr. 4

Basic issues in motivation, job satisfaction, and goal attainment in educational and human service organizations. Establishing productive supervisor/staff relations. Monitoring employee performance. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 8650 Staff Development and School Improvement Cr. 2-6

A clinical experience in planning, design, and implementation of in-service and of staff development programs. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

EDA 8710 Readings in General Administration Cr. 4

Directed readings in the principles underlying administration in education, government, business and social agencies and other major areas. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDA 8990 Internship in Administration Cr. 1-8

Supervised experience in administration of public education, government, business, and social agencies. Internship in cooperating school system. Includes seminar. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

EDA 9790 Doctoral Seminar in Educational Administration Cr. 3

Seminar, lecture, discussion. Purposes of education as defined in federal and state constitutions, statutes and administrative rules; interpretation of policy statements of organizations and commissions. Role of the educational leader in our society. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDP - EDUCATIONAL PSYCHOLOGY

EDP 3101 Introduction to Applied Behavior Analysis Cr. 4

Students will become familiar with techniques used in implementing Applied Behavior Analysis with people with special needs including Autism. Offered Fall.

Prerequisites: (May be taken concurrently: [EDP 3104])

EDP 3102 Techniques of Applied Behavior Analysis Cr. 4

Students will expand their knowledge of techniques used in implementing Applied Behavior Analysis with people with special needs including Autism. Advanced topics of Behavior Analysis will be taught. Offered Winter.

Prerequisites: (May be taken concurrently: [EDP 3105]) AND ([EDP 3101 with a minimum grade of D-])

EDP 3103 Applied Behavior Analysis Assessment and Treatment Planning Cr. 4

Students will learn various assessment and treatment planning techniques utilized in Applied Behavior Analysis. Offered Spring/Summer.

Prerequisites: ([EDP 3102 with a minimum grade of D-]) AND (May be taken concurrently: [EDP 3106])

EDP 3104 Field Experience in Applied Behavior Analysis I Cr. 2

Accompanies in EDP 3101 - Introduction to Applied Behavior Analysis and exposes students to observation experiences of working with persons with Autism. Offered Fall.

Prerequisites: (May be taken concurrently: [EDP 3101])

EDP 3105 Field Experience in Applied Behavior Analysis II Cr. 2

Accompanies EDP 3102 - Applied Behavior Analysis 2 and provides students beginning opportunities to work within the ABA model with persons with Autism. Offered Winter.

Prerequisites: (May be taken concurrently: [EDP 3102])

EDP 3106 Field Experience in Applied Behavior Analysis III Cr. 2

Accompanies EDP 3103 - Applied Behavior Analysis Assessment and Treatment Planning and provides students increasing independence in assessing and treating persons with Autism within the ABA model. Offered Spring/Summer.

Prerequisites: (May be taken concurrently: [EDP 3103])

EDP 3310 Educational Psychology Cr. 3

Introductory course in educational psychology. Topics include, but are not limited to: child and adolescent development, cognitive and behavioral learning theories, information processing, motivation and evaluation. Includes study of exceptional children and those with cultural differences. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

EDP 5450 Child Psychology Cr. 2-3

Basic concepts, research findings and problems regarding child, pre-adolescent and early adolescent developmental needs as they apply to school and home environments; includes study of exceptional children and those with cultural differences. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

EDP 5480 Adolescent Psychology Cr. 2-3

Basic concepts, research findings and problems regarding early adolescent and adolescent developmental needs as they apply to school and home environments; includes study of exceptional children and those with cultural differences. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

EDP 6210 Foundations of Educational Psychology Cr. 3

Introduction to current issues in educational psychology. Topics include, but are not limited to: child and adolescent development, learning, motivation, information processing and evaluation. Includes study of the exceptional child and those with cultural differences. Offered Fall, Winter.

EDP 7101 Foundations of Applied Behavior Analysis Cr. 4

Principles and concepts of Applied Behavior Analysis (ABA); historical perspectives, fundamental vocabulary, philosophy, and methodology of the science of behavior management. Offered Yearly.

Prerequisite: EDP 7106 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7102 Assessment Techniques in Applied Behavior Analysis Cr. 4

Overview of assessment techniques used in behavioral intervention planning, functional assessments, functional assessment interview, descriptive and functional analysis, data collection and interpretation, preference assessment, and interpretation of evaluation tools. Offered Yearly.

Prerequisite: EDP 7101 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7103 Applied Behavior Analysis Treatment Planning Cr. 4

Techniques used in behavioral intervention planning, data collection, interpretation of assessments, development of goals and objectives, overview and application of treatment interventions, management, supervision, and team planning. Offered Yearly.

Prerequisite: EDP 7102 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7104 Research Methods in Applied Behavior Analysis Cr. 3

Overview of research method techniques, theoretical foundations of empirical research, principles of the scientific method, experimental designs, analysis of research designs, research protocol, and formation of research hypothesis. Primary focus on single-case designs. Offered Yearly.

Prerequisite: EDP 7102 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7105 Ethical Practice in Applied Behavior Analysis Cr. 3

Responsibility, values, ethics, and practice principles of the field of behavior analysis. Offered Yearly.

Prerequisite: EDP 7102 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7106 Field Experience in Applied Behavior Analysis Cr. 1-3

Students spend supervised time in the field practicing skills learned in the Board Certified Behavior Analyst (BCBA) course sequence. Students work directly with multiple children using a variety of applied behavior analysis techniques. Offered Yearly.

Prerequisite: EDP 7101 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

EDP 7107 Field Experience in Applied Behavior Analysis I Cr. 2

Students in the BCBA (Board Certified Behavior Analyst) courses will work directly with multiple clients using a variety of Applied Behavior Analysis techniques. Specific focus on supervised one on one behavioral intervention work with children. Offered Spring/Summer.

Corequisite: EDP 7103

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7108 Field Experience in Applied Behavior Analysis II Cr. 2

Students in the BCBA (Board Certified Behavior Analyst) courses will work directly with multiple clients using a variety of Applied Behavior Analysis techniques. Specific focus on working in team consultative context to deliver comprehensive behavioral services. Offered Fall.

Corequisite: EDP 7104

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7109 Field Experience in Applied Behavior Analysis III Cr. 2

Students in the BCBA (Board Certified Behavior Analyst) courses will work directly with multiple clients and staff using a variety of Applied Behavior Analysis techniques. Highest level of independent behavioral intervention work including managing all necessary assessment, treatment, case management, and intervention training and supervision of parents and technicians. Offered Winter.

Corequisite: EDP 7105

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7190 Couples Therapy Cr. 3

An introduction to the research, theories, skills and assessments related to couples therapy. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7200 Systemic Theories and Family Therapy Cr. 3

Survey of systemic theories and family systems therapy. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7220 Psychotherapy with Children and Adolescents Cr. 4

Theory of psychotherapy, including stages of therapy, issues of therapy, and techniques of therapy with children and adolescents. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7240 Psychotherapy with Adults Cr. 3

Theory of psychotherapy, including stages of therapy, issues of therapy, and techniques of therapy with adults. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7260 School-Based Consultation and Intervention Cr. 3

Consultation; academic and psychotherapeutic interventions. Emphasis on practical skills needed to work directly or indirectly with individuals and groups in the school setting. Offered Winter.

Prerequisite: EDP 7220 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7300 Ethics, Standards, and the Practice of Psychology Cr. 4

Legal, ethical, and professional issues confronting the practitioner. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7310 Psychology of Learning Across Development Cr. 3

Course blends a selection of human development and learning theories and concepts; emphasizes application to various professional contexts, e.g., community, health, business, school, and other organizational settings; focus is on late adolescence (ages 18-22) and adulthood. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: HE 7310

EDP 7350 The Learning Process Cr. 2-3

Substantive issues involved in learning as they relate to school practice. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7370 Adult Psychopathology Cr. 3

Psychopathology of adulthood; mental disorders, treatment and diagnosis. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7400 Foundations of Social Psychology Cr. 3

Systematic study of social psychology; implications for research and applied settings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7410 Human Developmental Psychology Cr. 3-4

Survey of research from psychoanalytic and learning viewpoints on human development from birth to adulthood. Emphasis on school environment and community psychology practice. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7420 Introduction to Behavioral Psychology Cr. 4

Basic principles and theories of behavioral psychology. Theoretical aspects of both operant and respondent conditioning. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7430 Applications I: Behavioral Psychology and Social Learning Cr. 4

Behavioral techniques used in dealing with the social behavior of both groups and individuals. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EDP 7480 Psychological Tests and Measurement Cr. 3

Overview of psychometric theory and test construction. Methods of assessing various areas of psychological functioning including intelligence or cognitive abilities, achievement, aptitude, personality functioning and vocational interests. No credit after EDP 7490. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

EDP 7490 Psychological Evaluation I Cr. 1-3

History of testing, psychometric theory, and test construction concepts in depth. Students apply these concepts in administration, scoring, and interpretation of standardized measures of academic functioning. No credit after EDP 7480. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students.

Course Material Fees: \$100

EDP 7520 Professional Ethics and Standards for Psychologists Cr. 3

An overview of scientific and professional ethics and standards related to the practice of psychology. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7561 Assessment of Cognitive Functioning Cr. 4

Theory, administration, scoring use, and interpretation of objective assessments of intelligence, achievement, perceptual function, and personality. Eight full administrations of one of the assessments: Binet, Wechsler, Bayley or McCarthy Scales. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

Course Material Fees: \$180

EDP 7562 Assessment of Personality and Social-emotional Functioning Cr. 4

Theory of personality development; administration, scoring, and interpretation of personality and social-emotional assessments; data integration and report writing. Offered Fall.

Prerequisite: EDP 7490 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students.

Course Material Fees: \$75

EDP 7563 Assessment of Academic Achievement Cr. 3

Students will administer, score, and interpret various academic achievement measures, integrate data and write instruction-driven reports, and communicate test results verbally. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in School and Community Psychology; enrollment is limited to Graduate level students.

EDP 7564 Assessment and Intervention for Academic Learning Difficulties Cr. 4

Students will learn about typical development of academic skills, historical and current methods of Specific Learning Disabilities evaluation, and linking academic assessment data to academic interventions for all levels of learning difficulties; emphasis on reading. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$125

EDP 7610 Child and Adolescent Psychopathology Cr. 3

Study of theories of psychopathology in children and adolescents and the application to these theories to practice. Differential diagnosis using currently acceptable classification systems. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7996 Research in Educational Psychology Cr. 1-8

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

EDP 8210 Fundamental Studies in Educational Psychology I: Learning Cr. 3

Issues and theories relevant to learning, perception, cognition, and motivation, as well as trends in research pertinent to the application of learning theory in education and in clinical practice. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Educational Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.

EDP 8230 Fundamental Studies in Educational Psychology II: Development Cr. 3

Contemporary theories and research in developmental psychology pertaining to research and practice in clinical and educational settings. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Educational Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.

EDP 8250 Fundamental Studies in Educational Psychology IV Cr. 3-9

Advanced study of a specific area in psychology with application to educational practice. Topics to be announced in Schedule of Classes .

Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Educational Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.

Repeatable for 9 Credits

EDP 8319 Practicum in Psychotherapy Cr. 1-2

Opportunity to provide psychological services (e.g., psychotherapy) to clients under supervision of a Licensed Psychologist or educational psychology professor. Offered Winter.

Prerequisite: EDP 7240 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology; enrollment is limited to Graduate level students.

EDP 8320 Internship in Clinical Procedures I Cr. 1-8

Internship 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. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Counseling Psychology or School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

Repeatable for 8 Credits

EDP 8330 Practicum/Field Experience in School Psychology Cr. 1-8

Internship as a school psychologist in an approved school with school-age pupils. Interns under supervision of person holding Michigan School Psychologist Certificate. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in School and Community Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

Repeatable for 8 Credits

EDP 8340 Internship in Clinical Procedures II Cr. 1-8

Placement as a psychologist in appropriate organized health care setting under the supervision of a licensed psychologist. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Educational Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.

EDP 8350 Internship Supervision Cr. 1-5

Case presentation of selected psychology clients for group/individual supervision. Offered Every Term.

Prerequisite: EDP 8320 with a minimum grade of C or EDP 8330 with a minimum grade of C or EDP 8340 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

EDP 8360 Internship in School Psychology Cr. 1-8

Advanced internship as school psychologist for those holding a Preliminary School Psychologist Certificate. Internship in an approved school with school-age pupils; supervision by University faculty and person with Michigan School Psychologist Certificate. Offered Every Term.

Prerequisite: EDP 8330 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

EDP 9310 Doctoral Seminar in Educational Psychology Cr. 3

An examination of psychological concepts relevant to the development and carrying forward of the work of the schools. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

EDS - EDUCATIONAL SOCIOLOGY

EDS 9620 Doctoral Seminar in Educational Sociology Cr. 3

Basic concepts of sociology applied to contemporary education. Offered
Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

EED - ENGLISH EDUCATION

EED 5200 Methods of Teaching English: Grades 7-12 Cr. 3

Introduction to the purposes and methods of teaching English composition and literature in grades seven through twelve. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

EED 6120 English Composition in Secondary Schools Cr. 3

Analysis of modes of writing; relationship of grammar and composition; integration with literature and reading; approaches to group and individualized instruction; relation of composition to perception, cognition, critical thinking, motivation, and self-awareness. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

EED 6210 Language, Literacy, and Learning Cr. 3

Teaching of language, grammar, and usage in English language arts classrooms, based in sociocultural and sociolinguistic approaches to teaching literacy and language. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

EED 6310 Young Adult Literature Cr. 3

Standards for evaluating young adult literature. Selection of literature for individual students in relation to interest and reading ability. Use of classroom collections. Techniques for helping students read poetry, drama and fiction. Offered Every Term.

Equivalent: INF 6530

EED 6330 Teaching Literature in Secondary Schools Cr. 3

Structure of poetry, fiction and drama in relation to aesthetic, social, and psychological needs of secondary school students. Relationship of teaching methods to curriculum patterns. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

EER - EDUCATIONAL EVALUATION AND RESEARCH

EER 4501 Quantitative and Qualitative Research, Measurement, and Program Evaluation Cr. 3

Provides an introduction to systematic disciplined inquiry and program evaluation. Topics in quantitative methods to be covered include : experimental, quasi-experimental, and survey research; instrument reliability and validity; descriptive and inferential statistics. Topics in qualitative methods to be covered include: grounded theory, ethnography, case study; trustworthiness, coding, and data networks/displays. Offered Fall, Winter.

EER 7610 Evaluation and Measurement Cr. 2-3

Principles and practices of evaluation and measurement with special focus on behavioral goals. Informal and formal evaluational strategies. Problems of self-evaluation. Logical, philosophical, and linguistic problems of evaluational methods and devices. Metrical analyses and standards. Innovations in educational assessment and accountability. Teacher-made tests. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EER 7630 Fundamentals of Statistics Cr. 3

Review of mathematics essential for statistics, sampling, computer use. Basic patterns of statistical inference, confidence estimation and significance testing regarding measures of averages, dispersion, correlation, and selected non-parametric statistics. One-way and two-way analysis of variance. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EER 7640 Fundamentals of Quantitative Research Cr. 3

Basic skills in educational research; nomenclature, problem, theory, hypothesis formulation; bibliographical and documentary techniques; retrieval systems; development of data-gathering instrumentation; computer orientation and research uses; collection and organization of data; manuscript development; report writing; techniques, methodologies for descriptive and experimental inquiry. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EER 7650 Computer Use in Research Cr. 3

Introduction to computer use in educational research with emphasis on using statistical packages (MIDAS and SPSS, BASIC programming language); writing statistical programs. Offered Every Term.

Prerequisite: EER 7630 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 7870 Qualitative Research I: Introduction Cr. 3

Explores frameworks that inform what knowledge is and how it is produced. Review of validity, reliability, positionality, and ethics in qualitative research. Overview of major research designs (ethnography, grounded theory, phenomenology, case study, and narrative analysis). Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EER 7880 Fundamentals of Ethnographic Research Cr. 3

Collecting, analyzing, and writing up findings from ethnographic data (participant-observation field notes, interviews, and artifacts); issues of rigor in naturalistic research in education. Offered Fall, Winter.

Prerequisite: EER 7870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 7910 Qualitative Methods for Diversity and Inclusion Cr. 3

Explores qualitative methodologies at the intersection of diversity and inclusion. Includes readings that address qualitative methodologies and theories that relate to race, ethnicity, gender, sexuality, dis/ability, age, class, language, and other aspects of diversity and inclusion. Examines the role of global communities in qualitative research. Offered Fall.

Prerequisite: EER 7870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 7920 Qualitative Methods for Community and Classroom Research Cr. 3

Explores qualitative methodologies for community research in local contexts. Examines principles of, and considerations for, place-based research in nearby communities. Designs a community-based research project, includes a focus on participatory action research, and examines the role of local communities in qualitative research. Offered Winter.

Prerequisite: EER 7870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8520 Qualitative Research II: Design and Data Collection Cr. 3

Examines approaches to qualitative data collection (interviews, focus groups, observations, documents, text, sound, video, and images). Readings in, and applications of, major qualitative research designs (ethnography, grounded theory, phenomenology, case study, narrative, and visual analysis). Offered Fall.

Prerequisite: EER 7870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8530 Qualitative Research III: Data Analysis and Reporting Cr. 3

Examines approaches to qualitative data analysis and computer assisted qualitative data analysis software (CAQDAS). Readings in, and applications of, major forms of qualitative data analysis (ethnography, grounded theory, phenomenology, case study, narrative, and visual analysis). Also addresses discourse analysis and theoretical analysis. Offered Winter.

Prerequisite: EER 8520 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8550 Advanced Qualitative Inquiry: Innovations in Theory Cr. 3

Explores contemporary developments in theories of qualitative research. Examines recent theories in education and social sciences research and connects theory with methodological practice. Develops approaches to research design that are grounded in theoretical frameworks. Offered Fall.

Prerequisite: EER 8530 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8560 Advanced Qualitative Inquiry: Innovations in Practice Cr. 3

Explores contemporary developments in the practice of qualitative research, and situates recent trends within historical developments in the field. Offered Winter.

Prerequisite: EER 8550 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8700 Advanced Qualitative Evaluation: Theory and Practice Cr. 4

Major paradigms of qualitative evaluation, strategies of inquiry, methods of collecting and analyzing materials, the art of interpretation. analysis of real data, including pattern coding, data displays, checklist matrices, transcription, explanation prediction within-case vs cross-case displays, ethical issues in evaluation. Computer use in qualitative evaluation. Offered Winter.

Prerequisite: EER 7870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8710 Advanced Ethnographic Research Cr. 4

Use of fieldwork to learn group interview, video collection and analysis, ethnographic survey, narrative and poetic analysis; deepening the understandings about culturally-sensitive research, rigor, and the politics of representation. Offered Winter.

Prerequisite: EER 7880 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8720 Advanced Quantitative Program Evaluation Cr. 3

Educational and school program evaluation: alternative approaches; students propose theory-based designs and strategies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EER 8760 Advanced Measurement I Cr. 3

Classical measurement theory including scaling, measurement error, reliability, validity. Review of strong statistics versus weak measurement debate. Empirical methods of psychometric applications in education and educational psychology. Offered Yearly.

Prerequisite: EER 7610 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8770 Advanced Measurement II Cr. 4

Modern measurement theory. Item response theory, including one and three parameter models, detecting item bias, multi-dimensional scaling. Offered Winter.

Prerequisite: EER 8760 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8800 Variance and Covariance Analysis Cr. 4

Multiple, partial, canonical correlation: variance and covariance analysis; Models I and II. Statistical analysis in experimental designs; Random Blocks, Latin Squares, Greco-Latin Squares, simple and complex factorials, confounding, fractional and split-plot designs. Supporting topics and techniques; missing observations; adjustment of means; probing the homogeneity of means and variances; study of contrasts; orthogonal polynomials and computer usage. Offered Yearly.

Prerequisite: EER 7630 with a minimum grade of B

Restriction(s): Enrollment is limited to Graduate level students.

EER 8820 Multivariate Analysis Cr. 4

Discriminant analysis, profile analysis; placement and classification problems; component and factor analysis. Supporting topics and techniques; transformation of variables, computer usage. Offered Yearly.

Prerequisite: EER 8800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8840 Structural Equation Modeling Cr. 4

Application of structural equation methods to applied educational psychology research. Model specification, estimation, and fit. Confirmatory factor analysis and correlation. Offered Yearly.

Prerequisite: EER 8820 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8860 Nonparametric, Permutation, Exact, and Robust Methods Cr. 4

Application of nonparametric, permutation, exact and robust methods to social and behavioral science data. Techniques of estimation, location, and association for discrete and continuous data. Offered Fall, Winter.

Prerequisite: EER 7630 with a minimum grade of C and EER 8800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8880 Monte Carlo Methods Cr. 1

FORTRAN 77/90/95 applied to Monte Carlo Methods for the development of new statistics and procedures and the comparison of existing methodologies. Solving data analysis problems via simulation techniques. Offered Fall, Winter.

Prerequisite: EER 7630 with a minimum grade of C and EER 8800 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8900 Qualitative Design for School Research Cr. 3

Field Placement. Integration of theory with practice for conducting, analyzing, and reporting qualitative research or evaluation in the schools. Offered Fall.

Prerequisite: EER 8700 with a minimum grade of C or EER 8710 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EER 8910 Practicum in Evaluation Cr. 2-6

Qualitative methods for action research in schools, including interviewing, field observation, life histories, visual records, and document analysis. Offered Every Term.

Prerequisite: EER 8700 with a minimum grade of C and EER 8710 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Education Evaluation&Research; enrollment is limited to Graduate level students.

EER 8992 Research and Experimental Design Cr. 3-4

Design of empirical research for students possessing basic knowledge of statistics. Topics include hypothesis construction, sampling theory, experimental and quasi-experimental designs, selection of statistical procedure, and construction of data gathering instruments. Offered Fall, Winter.

Prerequisite: EER 7630 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

EET - ELECTRICAL/ ELECTRONIC ENGINEERING TECHNOLOGY

EET 2000 Electrical Principles Cr. 3

Kirchhoff's laws, D.C. and A.C. circuit analysis, impedance, phasors, power and power factor correction, mutual coupling. Power transformers, D.C. and A.C. generators and motors, motor controls. Offered Yearly.

Prerequisites: ((MAT 1800 with a minimum grade of D-))

EET 2100 Principles of Digital Design Cr. 3

Applied Boolean algebra and number systems. Logic families, K-mapping; combinational logic, multiplexers and demultiplexers, readouts and displays, flip flops. Offered Yearly.

EET 2720 Microprocessor Fundamentals Cr. 3

Use of microprocessors as interface devices, including software, interfaces, memory, registers, and microcomputer system architecture, computer programming design projects. Offered Yearly.

Prerequisites: ((CSC 1050 with a minimum grade of D-))

Course Material Fees: \$25

EET 3100 Advanced Digital Design Cr. 3

System level design of digital logic circuits using hardwired and programmable logic devices. ROMs, PROMs, and PLAs. Synchronous and asynchronous circuit design and analysis. Offered Fall, Winter.

Prerequisites: ((EET 2100 with a minimum grade of D-))

EET 3150 Network Analysis Cr. 4

Analysis of circuits with dependent sources, RL, RC, and RLC circuit transient and sinusoidal response, network functions, frequency response, and power analysis. Offered Fall, Winter.

Prerequisites: ((EET 2000 with a minimum grade of D-)) AND (May be taken concurrently: [ET 3450 with a minimum grade of D-]) AND ((PHY 2140 with a minimum grade of D-))

EET 3180 Analog Electronics Cr. 4

Operational amplifiers, circuit and applications; summing and subtracting amplifiers; integrating and differentiating amplifiers; comparators. Design of active filters, oscillators and waveform generating circuits, and audio integrated circuits. Offered Fall, Winter.

Prerequisites: ((CHM 1020 with a minimum grade of D-)) AND ((EET 2000 with a minimum grade of D-))

Course Material Fees: \$20

EET 3300 Applied Signal Processing Cr. 3

Continuous-time and discrete-time signals, frequency response and impulse response; transfer function of linear systems, data acquisition and sampling, continuous and discrete Fourier transform; spectrum analysis and filtering; digital filter design. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [EET 3150 with a minimum grade of D-])

EET 3500 Electrical Machines and Power Systems Cr. 3

Energy fundamentals. Physical and operating characteristics of D.C. and A.C. generators and motors, transformers. Electric power network. Transmission line stability. Power factor correction. Load sharing by transformers and generators. Per unit notation. Environmental impact of electric power generation. Offered Irregularly.

Prerequisites: ((EET 2000 with a minimum grade of D-)) AND ((ET 3430 with a minimum grade of D-))

EET 3720 Micro and Programmable Controllers Cr. 3

Microprocessors and Programmable logic controllers; on-chip I/O resources, interfacing; controls, instrumentation, and communication; data manipulation and sequencer instruction set; development and debugging tools. Offered Fall, Winter.

Prerequisites: ((EET 2720 with a minimum grade of D- and CSC 1050 with a minimum grade of D-)) AND ((ET 2160 with a minimum grade of D- and EET 2720 with a minimum grade of D-)) OR May be taken concurrently: [CSC 1050 with a minimum grade of D-])

Course Material Fees: \$20

EET 4100 Computer Hardware Design Cr. 3

Structural organization and hardware design of digital computers. Register transfer, micro-operations, and microprogram control. Processing and control units, arithmetic algorithms, input-output systems, and memory systems. Offered Yearly.

Prerequisites: ((EET 2720 with a minimum grade of D-)) AND ((EET 3100 with a minimum grade of D-))

EET 4200 Control Systems Cr. 4

Feedback control systems with topics in time response, stability criteria, system representation, frequency response, compensation. PID controller; simulation of electrical and mechanical systems. Offered Fall, Winter.

Prerequisites: ((ET 3450 with a minimum grade of D-)) AND ((EET 3150 with a minimum grade of D-)) OR [MCT 3010 with a minimum grade of D-])

Course Material Fees: \$10

EET 4600 Power Electronics Cr. 3

Understanding different types of power semiconductor devices; analysis of typologies of uncontrolled and controlled converters, dc-dc converters. Simulation of power converters and application of power converter technologies in industrial and utility applications. Offered Yearly.

Prerequisites: ((EET 3150 with a minimum grade of D-)) AND ((ET 3450 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students.

EET 4730 Embedded Systems Networking Cr. 3

Principles of data communications and real-time embedded systems networking. P1C18F microcontroller family and multiple serial interfaces including USART, controller area network (CAN) bus along with other embedded standards. Offered Fall, Winter.

Prerequisites: ((EET 3100 with a minimum grade of D-)) AND ((EET 3720 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students.

EET 4990 Guided Study Cr. 1-6

Supervised study and instruction in field selected by student. Offered Irregularly.

Repeatable for 6 Credits

EET 5720 Computer Networking Applications Cr. 4

Networking protocols, components, architecture, and standards. Data communication, data packet structure, data transmission methods and techniques, network topologies, and media access control methods. Offered Yearly.

Prerequisites: ((EET 3100 with a minimum grade of D-)) AND ((EET 3720 with a minimum grade of D-))

Course Material Fees: \$25

EET 7720 Advanced Computer Networking Cr. 4

Latest advances in networking; internetworking with bridges, routers, and switches. LAN and WAN protocols, high speed networks. Offered Yearly.

Prerequisite: EET 5720 with a minimum grade of C

Corequisite: EET 7430

Restriction(s): Enrollment is limited to Graduate level students.

EGR - ENGINEERING: SPECIAL TOPICS

EGR 5655 Innovation & Entrepreneurship I Cr. 3

Provides education and hands-on experience in innovation and entrepreneurship applied to enterprise, product and service design and delivery. The first of a 2-semester sequence, this course teaches methods and tools to find, formulate, and develop engineering innovation and entrepreneurship, leading to practical, relevant, and productive new commercial and social enterprises. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 5656 Innovation & Entrepreneurship II Cr. 3

Provides education and hands-on experience in innovation and entrepreneurship applied to enterprise, product and service design and delivery. This course is the second of a 2-semester sequence. This course teaches methods and tools to find, formulate and develop engineering innovation and entrepreneurship, leading to practical, relevant, and productive new commercial and social enterprises. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 5657 Innovation & Entrepreneurship Lab Cr. 1

Provides hands-on application of Lean LaunchPad principles in innovation and entrepreneurship applied to enterprise, product and service and delivery. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Engineering.

Repeatable for 2 Credits

EGR 5995 Special Topics in Engineering Cr. 1-4

State of the art research, development and practice topics from across the fields of engineering; emphasis on interdisciplinary topics. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 7995 Special Topics in Engineering Cr. 1-4

State of the art research, development and practice topics from across the fields of engineering; emphasis on interdisciplinary topics. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

EGR 7999 Elements of Graduate Research Cr. 2

Key elements of graduate research. Topics covered include developing research ideas and library search skills, constructing a research proposal/prospectus, identifying research funding and fellowship opportunities, interdisciplinary research, and research ethics. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

EHP - EDUCATIONAL HISTORY AND PHILOSOPHY

EHP 3600 Introduction to the Philosophy of Education Cr. 3

Leading philosophies of education as they bear upon education as a profession and as a discipline. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

EHP 7600 Philosophy of Education Cr. 2-3

Philosophic inquiry into educational theory and practice. For teachers, counselors, curriculum directors, administrators, and those in related professions. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EHP 9600 Doctoral Seminar in Philosophy of Education Cr. 3

Systematic study of the field of philosophy of education. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EI - ENTREPRENEURSHIP AND INNOVATION

EI 5000 Introduction to Entrepreneurship and Innovation Cr. 3

Introduces the integrative new venture development framework, processes and tools applied throughout the program, and explores opportunities, resources available and the local entrepreneurial ecosystem. Offered Every Term.

EI 5200 Startup Funding and Profitability Cr. 3

Introduces students to basic accounting and financial information and the tools necessary to understand the workings and prospects a new venture; explore funding options for new ventures and develop financial projections required in a business plan. Offered Yearly.

Prerequisites: ([EI 5000])

EI 5400 Management and Leadership for Entrepreneurs Cr. 3

Topics include: the essential attributes of a successful entrepreneur and innovation; development of effective networks and personal relationships; working with and blending the strengths and talents of others, group and team dynamics; effective leadership and management; the everyday challenges of creating, owning and running a new venture, and exploring the differences which arise due to the type and size of the new venture. Offered Yearly.

Prerequisites: ([EI 5000])

EI 5600 Marketing New Ventures Cr. 3

Topics include: product development vs. customer development; market types; customer types; diffusion and adoption life cycle theories and concepts; market opportunity analysis and product/ market fit, estimation of market size; value proposition; positioning statement; marketing strategy and plan to launch and sustain a new venture. Offered Yearly.

Prerequisites: ([EI 5000])

EI 5900 Special Topics in Entrepreneurship and Innovation Cr. 3

Topics to be announced in the schedule of classes. Offered Yearly.

EI 5950 Directed Study in Entrepreneurship and Innovation Cr. 3

Offered Every Term.

EI 6000 Entrepreneurship and Innovation Capstone Cr. 3

Combines seminars with a project-intensive learning experience situated in the Detroit entrepreneurial ecosystem. Integrate and apply accumulated learning experiences from previous courses to the creation of a viable new venture and reach a decision whether or not to proceed, pivot, or terminate a new venture, and plan how to take these next steps. Offered Every Term.

Prerequisites: (3 of EI 5200, EI 5400, EI 5600, EI 5900, EI 5950, FPC 5010, FPC 5660) AND ([EI 5000])

EI 7000 Introduction to Entrepreneurship and Innovation Cr. 3

Exploration of entrepreneurship and innovation, introduces an integrative new venture development framework along with processes and tools applied throughout the certificate program; explores opportunities, resources available and the regional entrepreneurial ecosystem. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

EI 7200 Startup Financing and Profitability Cr. 3

Introduces students to basic accounting and financial information and the tools necessary to understand the workings and prospects for a new venture; explore funding options for new ventures and develop financial projections required in a business plan. Offered Yearly.

Prerequisites: ([EI 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

EI 7400 Management and Leadership for Entrepreneurs Cr. 3

Topics include: the essential attributes of a successful entrepreneur and innovation; development of effective networks and personal relationships; working with and blending the strengths and talents of others, group and team dynamics; effective leadership and management; the everyday challenges of creating, owning and running a new venture, and exploring the differences which arise due to the type and size of the new venture. Offered Yearly.

Prerequisites: ([EI 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

EI 7600 Marketing New Ventures Cr. 3

Topics include: product development vs. customer development; market types; customer types; diffusion and adoption life cycle theories and concepts; market opportunity analysis and product/ market fit, estimation of market size; value proposition; positioning statement; marketing strategy and plan to launch and sustain a new venture. Offered Yearly.

Prerequisites: ([EI 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

EI 7800 Special Topics in Entrepreneurship and Innovation Cr. 3

Offered Yearly.

Prerequisites: ([EI 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

EI 7850 Directed Study in Entrepreneurship and Innovation Cr. 3

Offered Every Term.

Prerequisites: ([EI 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

EI 7900 Entrepreneurship and Innovation Capstone Cr. 3

Combines seminars and discussions with a project-intensive learning experience situated in the Detroit entrepreneurial ecosystem. Integrate and apply accumulated learning experiences from previous courses to the creation of a viable new venture; reach a decision whether or not to proceed, pivot, or terminate a new venture; plan how to take the next steps and/or continue to pursue funding and achieve venture success. Offered Every Term.

Prerequisites: ([EI 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ELE - ELEMENTARY EDUCATION

ELE 6010 Family Centered Collaboration in Early Childhood Intervention and Special Education Cr. 3-4

Theories, concepts and practices of family centered intervention services for young children with special needs. Team-building and cross-disciplinary communication and collaboration with families. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

Equivalent: PSY 6010, SW 6010

ELE 6020 Seminar in Early Childhood Cr. 3

Educational programs for young children in child care centers, kindergartens, and the primary grades. Improved human relationships, choices for children, play as a way of learning. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6030 Assessment of Young Children in Educational Settings Cr. 3

Strategies for authentic assessments of young children in school and family educational settings. Offered Yearly.

ELE 6040 Role of Content Areas in Early Childhood Education Cr. 2-8

Child growth and development as related to the content areas within the early childhood years (birth to eight years). Appropriate subject matter, field experience, reference materials, audio-visual resources in the lives of young children. Topics to be announced in Schedule of Classes. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

Repeatable for 8 Credits

ELE 6050 Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions Cr. 3

Children's growth and development from conception through 3-years of age; emphasis on ecological aspects of infancy and toddler years; pivotal foundations of children's developmental competencies within relationship-based interventions and curriculum. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6060 Community Contacts: Working with Families in Urban Settings Cr. 3

Programs and services within the community that assist families in improving educational services for the child. Offered Yearly.

ELE 6070 Family, Community and School Partnerships: Supporting Children's Learning Cr. 3

Theory and practice in joining families, communities, and schools in promoting children's learning, development and success in school. Strengths and needs of families in a diverse, multicultural society, teachers' roles in concert with other disciplines in supporting families and building partnerships, and connection with community resources. Offered Yearly.

ELE 6080 Preprimary Goals and Practices Cr. 3

Topics related to development and learning of preschool child, role of teacher as facilitator, impact of family and community. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [ED 5998 with a minimum grade of C]) AND (May be taken concurrently: [TED 5790 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6090 Introduction to Infant Mental Health Theory and Practice Cr. 3

Concepts of infant mental health theory and practice as a developmental framework for the observation, assessment and understanding of infant-parent behaviors and interactions as indicators of strengths and risks in the security of the attachment relationship. Offered Yearly.

ELE 6100 Planning and Implementing Preschool Curriculum Cr. 3

Planning, implementing, and evaluating all aspects of preschool curriculum: activities, routines, and working with staff and parents.

Offered Irregularly.

ELE 6200 Children's Literature for Teachers Cr. 3

Survey of literature for use with PS-8 children; literary and artistic aspects of children's literature and strategies for integrating literature into school curriculum. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6290 Language Arts Instruction: P-8 Cr. 3

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. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6310 Reading Instruction: P-8 Cr. 3

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. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6340 Teaching Reading in Early Childhood Education Cr. 3

Rationale for teaching reading and various reading skills to young children. Materials and methods for initial reading instruction. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6390 Mathematics Instruction: P-8 Cr. 3

Developing mathematics skills in elementary and middle schools. Students plan, implement and evaluate learning experience with children under professional guidance. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6500 Science Curriculum: P-8 Cr. 3

Role of learning in science in the curriculum. Objectives, plans of organization for learning, resources materials. Overview of balanced program. Experiences with appropriate experiments, field trips, reference materials, audio-visual resources. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$10

ELE 6600 Social Studies Curriculum: P-8 Cr. 3

Social studies program in elementary and middle schools emphasizing intellectual, social and affective development. Designing programs based on social priorities, modern socioeconomic, cultural, ethnic, political concepts. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

ELE 6610 Current Developments in Early Childhood General and Special Education Cr. 1-6

Topics on developments in research-based recommended practices on early childhood general and special education, covered through seminars and workshops; early intervention and educational implications for children from birth to eight years old. Topics to be announced in Schedule of Classes. Offered Irregularly.

ELE 7020 Issues in Early Childhood Education Cr. 3

Current issues in early childhood care and education including theories, research, best practice, and historical philosophies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ELE 7035 Infant and Toddler Developmental Assessment for Intervention Planning Cr. 3

Developmental assessment of infants and toddlers for early intervention planning and infant mental health services. Focus on standardized assessment and evaluation procedures across child developmental domains and interpretation of results to inform interventions within natural environments. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

ELE 7840 Educating Elementary/Middle School Students in Urban Communities Cr. 3

Challenges and resources of teaching diverse populations in metropolitan schools. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

ELE 7850 Current Issues in Elementary Education Cr. 1-9

Current developments and issues of concern and debate in education at the international, national, state and local level. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ELI - ENGLISH LANGUAGE INSTITUTE

ELI 0100 Level 1: Oral Integrated Cr. 2,4

Focus is simple, basic oral communication in English for speakers who have very little knowledge of English. Students will acquire the ability to understand slow spoken English and interact with others in English about simple topics such as personal information, weather, time, food, clothing, transportation, people, housing, health, workplace, and education. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0110 Level 1: Written Integrated Cr. 2,4

Focus is simple, basic written communication in English for speakers who have very little knowledge of English. Students will acquire the ability to write numbers, common words, phrases and simple sentences in English with very basic grammar. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0120 Level 1: Intensive Reading and Vocabulary Cr. 2,4

Basic reading course in which students will learn to read isolated words and phrases that are familiar to everyday life. Students will recognize familiar names or words and read for information to understand announcements and follow directions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0200 Level 2: Oral Integrated Cr. 2,4

Focus is to increase the student's ability to comprehend and produce common spoken English with high frequency vocabulary. Students will be asking and answering questions, taking notes on main ideas, and participating in short social exchanges. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0210 Level 2: Written Integrated Cr. 2,4

Students will acquire the ability to write simple sentences and progress to writing complex sentences using clauses. Students will form a well-organized paragraph with a topic sentence, supporting details, and examples with transitions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0215 Level 2: Intensive Reading and Vocabulary Cr. 1,2

Focus is to increase students' comprehension of printed material and increase vocabulary. Students will read a short text and identify main ideas, details, and interpret vocabulary from context; will be able to follow written directions and announcements; and will be able to make inferences from written information. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0220 Level 2: Communicative Grammar Cr. 1-2

Builds communicative competence, or ability to communicate effectively, naturally, and appropriately in a variety of real life situations. In order to build communicative competence, grammar points will be introduced and practiced with an emphasis on the productive skills of speaking and writing. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0300 Level 3: Oral Integrated Cr. 2,4

Students will increase their ability to communicate in clear standard speech on familiar matters regularly encountered at work, school, leisure, etc. Academic vocabulary will be introduced/increased. Students will increase their ability to comprehend the main points of longer lectures and take notes on main ideas. Students will have group discussions and give short presentations. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0310 Level 3: Written Integrated Cr. 2,4

Students will produce a well-developed paragraph with organization: topic sentence, transitions, two to three main points with two to three supporting details and examples, and concluding sentences. Grammatical structures will be introduced to help students practice compound and complex sentence variety for precision and detail in writing. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0315 Level 3: Intensive Reading and Vocabulary Cr. 1,2

Focus is to increase vocabulary and comprehension of varied reading passages. Students will be able to identify topics, main ideas, and details as well as recognize point of view, purpose and tone. Students will use strategies to discern meaning of words from context and use dictionary skills to increase vocabulary. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0320 Level 3: Extensive Reading Cr. 1-2

Students will increase their reading fluency, or speed and ease of reading. The focus of their reading will be on identifying overall meaning of texts. Class Readers will be assigned to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0400 Level 4: Oral Integrated Cr. 2,4

Focus is the enhancement of communication skills in an academic context. Students will learn pronunciation rules, take notes on main ideas and details, orally summarize what was presented, offer opinions on various topics, and give longer presentations on topics using a variety of rhetorical modes. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0410 Level 4: Written Integrated Cr. 2,4

Students will acquire the ability to organize and write a four- to five-paragraph essay using a variety of sentence types, rhetorical modes, and transitions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0415 Level 4: Intensive Reading and Vocabulary Cr. 1,2

Students will identify the structure, purpose, and connection between ideas in academic texts by finding main ideas, topic sentences, and supporting details in a passage. Students will use strategies to discern meaning of words from context and use dictionary skills to increase vocabulary through word forms. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0420 Level 4: Extensive Reading Cr. 1,2

Students will increase reading fluency by identifying overall meaning of texts. Class Readers will be assigned to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0500 Level 5: Oral Integrated Cr. 2,4

Focus is on mastering communication skills in an academic context. Students will take notes on main ideas and details, orally summarize what was presented, offer opinions on various topics, and give longer presentations on topics using a variety of rhetorical modes in academic/professional fields. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0510 Level 5: Written Integrated Cr. 2,4

Students will develop critical thinking skills through reading, writing, and classroom discussion. Students will write well-developed five- to eight-paragraph essays and relate assigned readings to their own experience. Students will learn how to incorporate outside sources into their essays and use appropriate citations. Advanced grammatical structures will be reviewed and expanded as necessary Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0515 Level 5: Research Skills Cr. 1,2

Introduces academic writing and research at the university level. Breaks the traditional research paper into shorter writing assignments while focusing on academic writing skills such as paraphrasing, summarizing, and using correct citations. Students will learn how to search for and evaluate academic sources in the library and online databases. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0520 English for Teaching Assistants Cr. 2

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

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0530 TOEFL/Timed Essay Writing Preparation Cr. 1-2

Class designed to enhance student's ability to understand and perform on the Test of English as a Foreign Language (TOEFL) for the paper-based and iBT(Internet)-based formats. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0540 Level 5: Media & Culture Cr. 1,2

Provides a greater understanding of American culture and current events via extensive reading from novels and texts as well as print media, leading to integrated learning outcomes such as written assignments, oral presentations, and discussions. TV and radio programs, as well as films and documentaries will provide input for activities and assignments. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 6 Credits

ELI 0600 Academic Preparation III: Oral-Integrated Cr. 2,4

Increasing aural/oral fluency through participation in academic/content-based discussions and other forms of speech in different settings (formal/informal and academic). Presentations are recorded. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0610 Academic Preparation III: Written-Integrated Cr. 2,4

Development of critical thinking skills and advanced level grammar for writing competency in various rhetorical modes for multi-page essays. To increase comprehension, readings will be authentic/native-speaker materials. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 4 Credits

ELI 0615 Academic Preparation III: Reading and Vocabulary Cr. 1,2

Students learn advanced academic words and gain in-depth understanding of meaning and uses of new vocabulary in authentic readings. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0699 Directed Study Cr. 1-4

Meets the needs of English as a Second Language (ESL) students in their last stages of preparation for matriculation. Based on students' particular needs, instruction will be provided to strengthen various academic preparation skills, including listening and note-taking practice in an academic context, extensive and intensive reading, and expository and research paper writing. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 8 Credits

ELI 0700 Written Communication Cr. 1,2

Through reading and writing of complex texts, students improve their understanding and use of American English grammar, and mechanics (punctuation and capitalization) for academic and professional settings. Offered Every Term.

Restriction(s): Enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0705 American Pronunciation and Clear Communication Cr. 1,2

Course addresses the communication needs of advanced-level, non-native English speakers who want to reduce the amount of pronunciation errors produced in their speech. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0715 Research Paper Cr. 1,2

Step-by-step instruction in the process of writing an American-style research paper with academic sources and following a prescribed format, such as APA or MLA. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0720 Advanced Integrated Skills Cr. 1,2

Authentic undergraduate-level lectures presented by WSU faculty from various disciplines are used to simulate academic courses. Students use all skills. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0725 Advanced TOEFL Preparation Cr. 1,2

Students develop strong vocabulary and reading skills in English and prepare for the TOEFL. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0730 TOEFL-iBT Preparation Cr. 1,2

Students enhance their ability to understand and perform on the Test of English as a Foreign Language (TOEFL) for the paper-based and iBT(Internet)-based formats. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

Repeatable for 2 Credits

ELI 0800 Writing Skills I Cr. 3

This course integrates reading, writing, and grammar and focuses on comprehending main ideas and details, inferencing in simplified reading texts, and understanding vocabulary in context. Students will learn to organize and write paragraphs with simple grammatically correct sentences. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to English Language Institute level students.

ELI 0810 Oral Skills I Cr. 3

This course integrates listening and speaking in English and introduces culturally appropriate interaction in speech. Students listen to dialogues, newscasts, and short lectures; give short presentations on a variety of topics; and receive individualized feedback on pronunciation. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0820 Writing Skills II Cr. 3

This course integrates reading, writing, and grammar and will emphasize how reading and writing are related. Rhetorical modes of essay writing will be introduced, authentic texts will be read, and more advanced grammar points will be covered. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0830 Oral Skills II Cr. 3

This course integrates listening and speaking in English and focuses on refining students' abilities to understand academic and informal spoken language by listening to academically-themed lectures and extended dialogues. They will develop critical thinking skills for responding to questions and giving presentations. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman or Sophomore; enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0840 Writing Skills III Cr. 4

Course integrates reading, writing and grammar; focus on reading authentic materials and writing essays. Students work to improve their understanding and use of American English, grammar, and mechanisms for academic settings. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0850 Oral Skills III Cr. 4

Course integrates listening and speaking in English and will help students increase their aural/oral fluency through participation in academic/content-based discussions and various other forms of speech in formal, informal and academic settings. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in English Language Institute; enrollment is limited to English Language Institute level students.

ELI 0860 Communication and Culture Cr. 4

This course will involve writing and oral presentations based on academic readings and cultural experiences. Additional instruction in grammar and sentence structure will be provided based on students' needs. Offered Every Term.

Restriction(s): Enrollment is limited to English Language Institute level students.

ELR - EMPLOYMENT AND LABOR RELATIONS

ELR 2500 Introduction to Labor Studies Cr. 4

Introduction to labor and employment relations: the essential nature, evolution and purpose of the twenty-first century workplace. Offered Every Term.

ELR 4500 Applied Labor Studies Cr. 3

Practical training in various labor relations specialties, such as collective bargaining or labor law. Consult coordinator on specific topic. Offered Every Term.

Repeatable for 12 Credits

ELR 4700 Senior Seminar Cr. 3

Research, reflection, discussion and analysis of labor relations practice. Offered Yearly.

Prerequisites: ((ELR 2500 with a minimum grade of D-))

Repeatable for 6 Credits

ELR 4990 Directed Study Cr. 1-6

Supervised reading and research in labor studies. Offered Every Term.

Repeatable for 6 Credits

ELR 7000 Introduction to Labor and Employment Relations Cr. 3

Introduction to the broad and changing field of labor and employment relations. Topics from the nature of work and role of labor in society to current labor and employment laws. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

ELR 7010 Health Care, Retirement, and Employee Benefit Plans Cr. 3

Comprehensive understanding of employee benefits issues and practices. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

ELR 7400 Labor Relations Law in North America Cr. 3

Federal and provincial regulation of union organizing, collective bargaining and union contract administration in the private sector. Content, administration and judicial interpretation of labor relations legislation in the United States, Mexico, and the Canadian province of Ontario. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ELR 7420 Labor and American Politics Cr. 3

Role of organized labor in American politics. Historical background, including rise of the UAW and its role in Detroit and Michigan politics. Recent declines; future of organized labor as a force in American politics. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PS 6070

ELR 7430 Public Sector Labor Relations Cr. 3

History, present functions, problems and current controversies surrounding public sector unions. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PS 6340

ELR 7450 Employment Relations Law in North America Cr. 3

Federal and state legislation affecting employee-employer relations: discrimination, pension, occupational safety and health, fair labor standards. Implementation of these policies, effect on worker-manager relations: Canada, Mexico, United States. Required core course. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

ELR 7550 Selected Topics in 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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

ELR 7600 Internship in Employment and Labor Relations Cr. 1-3

Active involvement in employment and labor relations duties for an employer, union, government agency, or employment and labor relations professional; apprenticeship to a labor arbitrator; or other appropriate opportunity for industrial relations experience. At least eight hours per week; may be paid or unpaid. Offered Every Term.

Restriction(s): Enrollment limited to students in the MA in Employ & Labor Relations program; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

ELR 7700 Current and Future Trends in Collective Bargaining Cr. 3

Collective bargaining, current and future directions; emphasis on joint union-management approach to developing programs improving the quality of work life through workers' involvement in the decision-making process; examination of practical procedures to initiate and implement such programs. Offered Fall.

Restriction(s): Enrollment limited to students in the MA in Employ & Labor Relations program; enrollment is limited to Graduate level students.

ELR 7990 Directed Study Cr. 1-4

Intensive study of significant industrial relations topic against background of more general course work. Preparation of term paper required. Offered Every Term.

Restriction(s): Enrollment limited to students in the MA in Employ & Labor Relations program; enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ELR 8500 Strategic Analysis of North American Labor and Human Resources Issues Cr. 3

Analysis on micro (game theory) and macro (planning) levels; integration of skills; student teams work as consultants for client organization on strategic labor or human resource problem. Offered Yearly.

Restriction(s): Enrollment limited to students in the MA in Employ & Labor Relations program; enrollment is limited to Graduate level students.

ENG - ENGLISH

ENG 1010 Basic Writing Cr. 2,3

Extensive practice in fundamentals of college writing and reading in preparation for ENG 1020. Required of students qualifying on the basis of ACT score or English Qualifying Examination. Only two credits count toward graduation. No credit toward English group requirement. Offered Every Term.

Prerequisites: ((ISP 0510 with a minimum grade of SNC) OR [APX 0500 with a minimum grade of SNC] OR [ENG Permit to Reg ACT/SAT with a test score minimum of 11201-19999] OR [ENG Permit to Reg-(L0-L2) EQE with a test score minimum of 11201-19999])

ENG 1020 Introductory College Writing Cr. 3

A course in reading, research, and writing skills that prepares students to write successfully in college classes. Offered Every Term.

Prerequisites: ((ENG 1010 with a minimum grade of SNC) OR [ENG 1020] OR [ENG Permit to Reg ACT/SAT with a test score minimum of 21201-99999] OR [ENG Permit to Reg-(L0-L2) EQE with a test score minimum of 21201-99999])

ENG 1050 Freshman Honors: Introductory College Writing Cr. 3

A course in reading, research and writing skills that prepares students to write successfully in college classes. Offered Fall.

ENG 2100 Introduction to Poetry: Literature and Writing Cr. 3

Introduction to techniques and forms of poetry through critical reading of, and writing about, poems of various types and from many periods. Offered Yearly.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

ENG 2110 Introduction to Drama: Literature and Writing Cr. 3

Introduction to techniques and forms of drama through critical reading of, and writing about, representative plays from various traditions and periods. Offered Yearly.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

ENG 2120 Introduction to Fiction: Literature and Writing Cr. 3

Introduction to techniques and forms of fiction through critical reading of, and writing about, short stories and novels. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

ENG 2200 Shakespeare Cr. 3

Emphasis on the dramatic and literary qualities of the plays: representative comedies, tragedies and histories. Offered Every Term.

ENG 2210 Great English Novels: Literature and Writing Cr. 3

Critical reading of, and writing about, a representative sample of important and pleasurable English novels from the eighteenth century through the modern period. Offered Yearly.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

ENG 2310 Major American Books: Literature and Writing Cr. 3

Critical reading of, and writing about, representative texts in prose, poetry, and drama by such writers as Emerson, Twain, Dickinson, O'Neill, Ellison. Offered Yearly.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

ENG 2390 Introduction to African-American Literature: Literature and Writing Cr. 3

Introduction to major themes and some major writers of African-American literature, emphasizing modern works. Reading and writing about representative poetry, fiction, essays, and plays. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

Equivalent: AFS 2390

ENG 2420 Literature and the Professions: Literature and Writing Cr. 3

Representations of the professions (law, medicine, etc.) in the world of literature. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2430 Digital Narrative Cr. 3

Introductory study of digital narrative and electronic textuality, including a variety of digital-born media such as online literature, gaming and interactive fiction. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2440 Introduction to Visual Culture Cr. 3

Introductory course in the reading of images from the perspective of literary and cultural studies. Attention to basic concepts, terms, and theories in the study of visual culture. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2450 Introduction to Film Cr. 4

Examination of film techniques and basic methods of film analysis. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Course Material Fees: \$15

Equivalent: COM 2010

ENG 2500 The English Bible as Literature Cr. 3

The King James text as a literary masterpiece. Offered Irregularly.

ENG 2510 Popular Literature Cr. 3

Introductory study of popular literature. Content may include recent best-sellers, horror, science fiction and prize-winning novels. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2560 Children's Literature: Literature and Writing Cr. 3

Introductory course in writing about the Anglo-American tradition of classic and contemporary children's literature. Offered Every Term.

Prerequisites: ((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [College Level Exam Program with a test score minimum of BC-BD])

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2570 Literature By and About Women: Literature and Writing Cr. 3

Introduction to the major themes and issues of writing by and about women. Reading and writing about representative fictional and non-fictional works. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

ENG 2670 Introduction to Canadian Studies Cr. 3

Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.

Equivalent: GPH 2700, HIS 2700, PS 2700

ENG 2720 Basic Concepts in Linguistics Cr. 3

Analysis of the structure and use of language, focusing on English, from the standpoint of current linguistic practice. Topics include: phonetics and sound structure, word structure, syntax, semantics, language origin and history, dialects, language learning, animal communication, and language in social interaction. Offered Yearly.

Equivalent: LIN 2720

ENG 2730 Languages of the World Cr. 3

Survey of structure of major language families of the world, western and non-western; interrelationships of language and culture; universals and variations of universals in language and culture. Offered Yearly.

Equivalent: LIN 2730

ENG 2800 Techniques of Imaginative Writing Cr. 3

Writing in various creative forms. Frequent individual conferences and student readings for class criticism. Offered Fall, Winter.

ENG 3010 Intermediate Writing Cr. 3

Course in reading, research and writing for upper-level students.

Emphasis on conducting research by drawing from the sciences, social sciences, humanities, and professions in preparation for Writing Intensive courses in the majors. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

ENG 3020 Writing and Community Cr. 3

Students develop and write about community-based service-learning projects. Offered Fall, Winter.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3050 Technical Communication I: Reports Cr. 3

Instruction in basic technical writing skills. Requirements include writing summaries, letters, memos, instructions, and technical reports. Topics include audience and purpose analysis, textual and visual aspects of document design, and formatting. Offered Every Term.

Prerequisites: ((ENG 1020 with a minimum grade of D-) OR [ENG 1020 with a minimum grade of D- and ENG 1020 with a minimum grade of C] OR [ENG 1020 with a minimum grade of D- and ENG 1020 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D- and ENG 1050 with a minimum grade of C] OR [ENG 1050 with a minimum grade of D- and ENG 1050 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D- and ISP 1510 with a minimum grade of C] OR [ISP 1510 with a minimum grade of D- and ISP 1510 with a minimum grade of C] OR [College Level Exam Program with a test score minimum of BC-BD and College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200 and Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100 and (AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

ENG 3060 Technical Communication II: Presentations Cr. 3

Instruction in basic technical presentation skills. Requirements include informative presentations, oral briefings, needs assessments, progress reports, and formal proposals. Topics include collaborative teamwork, audience and purpose analysis, textual and visual aspects of presentation design, and formatting. Offered Every Term.

Prerequisites: ((ENG 3050 with a minimum grade of C])

ENG 3085 Introduction to Rhetoric and Writing Cr. 3

Introduction to the theories and practice of rhetoric and writing studies. Attention to the scholarly study of persuasive discourse and the role of rhetoric in English studies. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3090 Introduction to Cultural Studies Cr. 3

Introduction to the theories and practices of cultural studies. Examination of key theoretical terms and debates, to be put into critical practice through readings of various cultural forms. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3100 Introduction to Literary Studies Cr. 3

Introduction to the theories and practices of literary studies. Practice in responding to, analyzing, and writing about literary texts. Offered Fall, Winter.

ENG 3110 English Literature to 1700 Cr. 3

Historical survey of British literature from the medieval period to 1700. Offered Fall, Winter.

ENG 3120 English Literature after 1700 Cr. 3

Historical survey of British literature from 1700 to the present. Offered Fall, Winter.

ENG 3130 American Literature to 1865 Cr. 3

Historical survey of American literature from its beginnings to 1865. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3140 American Literature after 1865 Cr. 3

Historical survey of American literature from the Civil War to the present. Offered Fall, Winter.

ENG 3150 History of Film I: Beginnings to 1940 Cr. 3

International film from its origins in the late 19th century to 1940; may include silent cinema, Soviet montage, German expressionism, the coming of sound, American film genres. Offered Irregularly.

Course Material Fees: \$25

ENG 3160 History of Film II: 1940-1960 Cr. 3

International film from 1940 to 1960; may include Italian neo-realism, postwar Japanese cinema, American melodrama. Offered Irregularly.

Course Material Fees: \$25

ENG 3170 History of Film III: 1960 to Present Cr. 3

International film from 1960 to present day; may include study of key auteurs, continuation of French New Wave, New German cinema, New American cinema, film in China, decline of the Hollywood studio system. Offered Irregularly.

Prerequisites: ([ENG 1020 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Course Material Fees: \$25

ENG 3470 Survey of African-American Literature Cr. 3

Historical survey of African-American literature from the early American period to the present. Offered Biannually.

Prerequisites: ([ENG 1020 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

ENG 3700 Structure of English Cr. 3

Survey of the major structural features of Standard English at the levels of sounds, words, and sentences, using concepts and methods from the field of linguistics. Special attention to relation of spoken to written English. Offered Yearly.

Equivalent: LIN 3700

ENG 3800 Introduction to Creative Writing Cr. 3

Introduction to the practice of creative writing in traditional genres (verse, prose, drama) and also mixed forms. Attention to the place of creative writing in the study of literature and culture. Frequent individual conferences and class critique of student writing. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3810 Poetry Writing Cr. 3

Instruction and practice in the art of English and American poetic forms: patterns of sound, quantitative values, diction, metaphors and images. Offered Yearly.

Prerequisites: ([ENG 2800 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

ENG 3820 Fiction Writing Cr. 3

Fundamentals of fiction, mainly the short story. Analysis of stories by established writers and by students. Frequent individual conferences. Offered Yearly.

Prerequisites: ([ENG 2800 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

ENG 3830 Play Writing Cr. 3

Basic instruction in the development of plays for stage and screen. Attention to the writing of dialogue. Offered Irregularly.

Prerequisites: ([ENG 2800 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1020 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ENG 1050 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [ISP 1510 with a minimum grade of D-] OR [College Level Exam Program with a test score minimum of BC-BD] OR [Exempt from BC via Eng Qual Ex with a test score minimum of 200] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

ENG 4990 Directed Study: Honors Program Cr. 1-3

Offered Every Term.

Repeatable for 6 Credits

ENG 4991 Honors Seminar Cr. 3

Fulfills senior seminar requirement for Honors students. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior.

Repeatable for 6 Credits

ENG 4992 Honors Project Cr. 3

Substantial scholarly project in literature, rhetoric, film, or a body of creative writing accompanied by an essay. Offered Every Term.

Repeatable for 6 Credits

ENG 5010 Advanced Expository Writing Cr. 3

Advanced study and practice in various forms of expository prose, especially the essay. Topics to be announced in Schedule of Classes.

Offered Irregularly.

Repeatable for 6 Credits

ENG 5020 Topics in Media and Modern Culture Cr. 3

Topics may include: history of television, the internet, video games, other visual media; topics announced in Schedule of Classes. Offered Biannually.

Course Material Fees: \$20

Repeatable for 9 Credits

ENG 5030 Topics in Women's Studies Cr. 3

Thematic, critical or generic study of women and literature. Topics to be announced in Schedule of Classes. Offered Yearly.

Equivalent: GSW 5030

Repeatable for 9 Credits

ENG 5035 Topics in Gender and Sexuality Studies Cr. 3

Advanced course on issues of sexuality and gender as mediated through literary and cultural study. Attention to critical theory as well as various literary and cultural forms. Topics to be announced in Schedule of Classes. Offered Yearly.

Equivalent: GSW 5035

Repeatable for 9 Credits

ENG 5040 Film Criticism and Theory Cr. 4

Survey of the major film theories from Munsterberg to contemporary film semiotics; examination of various attempts made at a systematic understanding of the cinema. Offered Yearly.

Course Material Fees: \$20

ENG 5050 Historical Topics in Film and Media Cr. 4

Specialized, in-depth topics in film cycles and movements of a historical nature, such as French new wave, film noir, etc. Topics to be announced in the Schedule of Classes. Offered Biannually.

Course Material Fees: \$20

Repeatable for 12 Credits

ENG 5060 Styles and Genres in Film Cr. 4

Study of significant works within selected genres, such as the western, horror, comedy, animation. Topics to be announced in the Schedule of Classes. Offered Yearly.

Course Material Fees: \$20

Repeatable for 12 Credits

ENG 5070 Topics in Film and Media Cr. 4

Critical and theoretical topics including style and work of specific filmmakers and philosophical approaches to film and other media. Topics to be announced in the Schedule of Classes. Offered Yearly.

Course Material Fees: \$20

Repeatable for 12 Credits

ENG 5075 Topics in New Media Cr. 3

Advanced course on the expressive forms of new media. Attention to recent work in humanities computing, digital humanities, and/or new media studies. Topics to be announced in Schedule of Classes. Offered Yearly.

Repeatable for 9 Credits

ENG 5080 Topics in Global and Transnational Studies Cr. 3

Study of literature and culture from a global and/or transnational perspective. Topics to be announced in the Schedule of Classes. Offered Yearly.

Repeatable for 9 Credits

ENG 5090 Topics in Literary and Cultural Theory Cr. 3

Study of literary and cultural theory in various contexts – urban, metropolitan, ethnic, global – with reference to primary texts. Topics to be announced in the Schedule of Classes. Offered Yearly.

Repeatable for 9 Credits

ENG 5095 Topics in Visual Culture Cr. 3

Advanced course in visual culture and its theory, and in the practice of reading images in a variety of literary and visual forms. Topics to be announced in the schedule of classes. Offered Yearly.

Repeatable for 9 Credits

ENG 5110 Chaucer Cr. 3

Readings from The Canterbury Tales and from Chaucer's other works in their cultural context. Offered Irregularly.

ENG 5120 Topics in Medieval Literature Cr. 3

Themes, genres, writers in English and continental Medieval literature. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5150 Shakespeare Cr. 3

For English majors and others interested in more intensive study. Some attention to Shakespearean scholarship. Offered Biannually.

ENG 5170 Literature of the English Renaissance: 1500-1660 Cr. 3

Survey of literature in all genres from Skelton through Milton, with an emphasis on non-dramatic poetry and prose. Offered Irregularly.

ENG 5180 Milton Cr. 3

Emphasis on Milton's major poetry with attention to his prose and to historical background. Offered Irregularly.

ENG 5190 Topics in Renaissance Literature Cr. 3

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. Offered Irregularly.

Repeatable for 9 Credits

ENG 5200 Restoration and Eighteenth Century Literature Cr. 3

A survey of English literature from 1660 to 1800. Readings from authors such as John Dryden, Aphra Behn, Mary Astell, Alexander Pope, Lady Mary Montagu, Jonathan Swift. Offered Biannually.

ENG 5240 Topics in Restoration and Eighteenth Century Literature Cr. 3

Special topics for detailed study of a genre, movement or author to be announced in the Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5260 Literature of the Romantic Period Cr. 3

A survey of English literature from 1789-1832. Emphasis on the major poets (Blake, Wordsworth, Coleridge, Keats, Shelley and Byron), with some attention to the major essayists (De Quincey, Hazlitt and Lamb) and novelists (Austen and Scott). Offered Biannually.

ENG 5270 Literature of the Victorian Period Cr. 3

A survey of English literature from 1832-1901. Emphasis on major poets (Tennyson, Arnold, Swinburne), novelists (Dickens, Eliot, Hardy), and prose writers (Carlyle and Ruskin). Offered Biannually.

ENG 5290 Topics in Nineteenth Century Literature Cr. 3

Readings emphasize thematic, generic, historic or aesthetic concerns in literature of the period. Topics to be announced in the Schedule of Classes. Offered Biannually.

Repeatable for 9 Credits

ENG 5300 Twentieth Century British Literature Cr. 3

Selected works in all genres from 1900 to the present. Offered Biannually.

ENG 5320 Topics in Twentieth Century British Literature Cr. 3

Selected writers, themes, genres, or movements, such as Eliot, Auden, Shaw, Lawrence, the modern novel, Bloomsbury, The Great War, the Thirties. Topics to be announced in the Schedule of Classes. Offered Biannually.

Repeatable for 9 Credits

ENG 5410 American Literature: 1800-1865 Cr. 3

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. Offered Irregularly.

ENG 5420 American Literature: 1865-1914 Cr. 3

Survey of important literary texts that arose from cultural phenomena like post-reconstruction, urbanization, immigration, the suffrage movement, and native rights. Literary movements like Realism and Naturalism will be studied as well as influential writers such as Cahan, Chopin, Dreiser and Dunbar. Offered Irregularly.

ENG 5450 Modern American Literature Cr. 3

Survey of culturally-significant writers and movements since 1914, such as: the Harlem Renaissance, Modernism, Postmodernism; authors like Ellison, Hemingway, Morrison, Stein. Offered Yearly.

ENG 5460 Topics in American Literature of the Twentieth Century Cr. 3

Twentieth century literature from specific perspectives, such as generic, historical, thematic. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5480 Topics in African American Literature Cr. 3

Thematic, generic or historical perspectives: topics such as early black writers, Harlem Renaissance, African-American poetry, contemporary black writers. Topics to be announced in the Schedule of Classes. Offered Yearly.

Repeatable for 9 Credits

ENG 5490 Topics in American Literature Cr. 3

Thematic, generic, or historical perspectives; may cover writers of different periods. Topics such as American humor, the theme of work, Southern literature, the city in literature. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5500 Topics in English and American Literature Cr. 3

Generic, historical or thematic perspectives. Topics to be announced in the Schedule of Classes. Offered Biannually.

Repeatable for 9 Credits

ENG 5510 Major Authors Cr. 3

Advanced study of one author, a pair of related authors, or a coterie of authors. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5520 Irish Literature Cr. 3

Major twentieth century Irish writers in the context of Irish history and politics, such as W.B. Yeats, James Joyce, major dramatists. Offered Irregularly.

ENG 5565 Postmodernism Cr. 3

Advanced study of postmodern literature and culture, with attention to its international development and to critical theory. Possible authors: Beckett, Calvino, Nabokov, Acker, DeLillo, Pynchon. Offered Biannually.

ENG 5590 Topics in Comparative Literature Cr. 3

The study of literary texts from an international point of view. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5595 World Literature in English Cr. 3

Advanced course in the study of literatures written in English beyond the United States and Great Britain. Attention to globalization, post-colonialism, and transnationalism. Authors may include: Rushdie, Coetzee, Kincaid, Kureishi, Ondaatje, Achebe, and Gordimer. Offered Yearly.

Prerequisites: ([ENG 2800 with a minimum grade of D-] OR [ENG 3800 with a minimum grade of D-])

ENG 5680 Children's Literature Cr. 3

Study of children's literature from a literary perspective. Attention to the place of children's literature in literary history, its relationship to canonical literary works, and the development of its specific literary forms and genres. Offered Irregularly.

ENG 5690 History and Future of the Book Cr. 3

Study of significant moments in the history of reading, writing, and the production and dissemination of texts. Attention to orality and literacy, authorship and originality, publishing and economics, as well as writing technologies past and present. Offered Irregularly.

ENG 5695 Topics in Writing and Publishing Cr. 3

Study of recent trends and issues within the publishing industry, textual editing, scholarly publishing, print and electronic publication formats, and history and future of publishing. Topics to be announced in Schedule of Classes. Offered Biannually.

Repeatable for 9 Credits

ENG 5700 Introduction to Linguistic Theory Cr. 3

Introduction to the scientific study of language and methodologies of linguistic analysis: phonetics and phonology, morphology, syntax and semantics. Offered Yearly.

Equivalent: LIN 5700

ENG 5710 Phonology Cr. 3

The sound systems of a variety of human languages compared and contrasted in an introduction to the diversity and similarities in human sound systems. Theories of the nature of sound systems and methods of analysis in phonology and morphophonology will be presented. Offered Yearly.

Prerequisites: ([LIN 5700 with a minimum grade of D-] OR [ENG 5700 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-] OR [ENG 2720 with a minimum grade of D-])

Equivalent: LIN 5290

ENG 5715 Morphology Cr. 3

Morphology is a core area of Linguistics. The course will introduce the basic issues in the study of the internal structure of words, as well as the analytical techniques applied to morphological analysis. Students will learn how to analyze words of various (Indo-European and non-Indo-European) languages into morphemes, as well as to recognize morphological patterns and to utilize theoretical concepts in order to describe and analyze such patterns. In particular, the course will develop a theory of morphology in generative grammar, paying special attention to the question of whether particular morphological phenomena are primarily syntactic or primarily phonological in nature. Offered Fall.

Prerequisites: ([ENG 5700 with a minimum grade of D-] OR [ENG 2720 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-] OR [LIN 5700 with a minimum grade of D-])

Equivalent: LIN 5715

ENG 5720 Linguistics and Education Cr. 3

Introduction to linguistics with emphasis on applications to education. Offered Yearly.

Equivalent: LIN 5720

ENG 5730 English Grammar Cr. 3

Comprehensive analysis of English sentence structure and parts of speech using the terminology and descriptive approach of traditional grammar. Offered Yearly.

Equivalent: LIN 5730

ENG 5740 Syntax Cr. 3

The theory of grammatical systems examined through analysis of sentence formation in a variety of human languages, diversity and universals in grammar, and theories of syntax. Offered Yearly.

Prerequisites: ([LIN 5700 with a minimum grade of D-] OR [ENG 5700 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-] OR [ENG 2720 with a minimum grade of D-])

Equivalent: LIN 5300

ENG 5745 Semantics Cr. 3

Semantics is a core area of Linguistics. This course investigates meaning in natural language. It examines two foundational assumptions of natural language semantics: (i) that the meaning of a declarative sentence is its truth conditions and (ii) that the truth conditions of an expression are determined compositionally (that is, they are determined as a function of its parts and how they are put together). Students will then learn to distinguish between the entailments, implicatures, and presuppositions of an expression, where only the first are part of the expression's truth conditions. Offered Winter.

Prerequisites: ([ENG 5700 with a minimum grade of D-] OR [ENG 2720 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-] OR [LIN 5700 with a minimum grade of D-])

Equivalent: LIN 5745

ENG 5750 Theories of Second Language Acquisition Cr. 3

The complex processes involved in learning a foreign/second language, including the nature of inter language and the individual and collective factors influencing learner success and the effectiveness of instruction. Offered Yearly.

Equivalent: LGL 5750, LIN 5750

ENG 5760 American Dialects Cr. 3

Survey of chief social and geographic dialects of American English and introduction to theory of language variation. Offered Irregularly.

Equivalent: LIN 5760

ENG 5770 Sociolinguistics Cr. 3

Identification of sociolinguistic principles used by English speakers and writers in choosing among the different English codes, styles, registers and social dialects in American and other communities. Offered Biannually.

Equivalent: LIN 5770

ENG 5790 Writing Theory Cr. 3

Review of linguistic, rhetorical, and/or literary theories of written language. Analysis of the principles, purposes, types, and modes of written discourse. Offered Yearly.

ENG 5795 Topics in Rhetoric and Writing Cr. 3

Advanced course in rhetoric and writing. Attention to recent work in composition studies, rhetorical theory, and writing. Topics to be announced in Schedule of Classes. Offered Irregularly.

Repeatable for 9 Credits

ENG 5820 Internship Practicum Cr. 3

Students work 8-20 hours per week as tutors, writers, editors or researchers in publishing firms, businesses, government, and community organizations. Classroom sessions focus on reading and writing analytical texts related to workplace experience, and creating a portfolio of works created from the internship. Offered Every Term.

Repeatable for 6 Credits

ENG 5830 Introduction to Technical and Professional Writing Practices Cr. 3

Intensive writing course that develops communication skills used in the workplace. Designed for students preparing to become technical writers/editors and students who will write as part of their professional work. Offered Biannually.

ENG 5840 Theoretical Approaches to Technical and Professional Writing Cr. 3

Survey of the theory and practice of technical and professional communication. Topics include the rhetoric and teaching of technical communication, analysis of on-the-job writing and rhetorical situations, and use of new communications technology. Some technical report writing, a research paper, and extensive reading and writing. Offered Biannually.

ENG 5850 Introduction to Scholarly Writing for Non-native English Speakers Cr. 2

Intensive practice in writing at the graduate level for non-native speakers of English. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

ENG 5860 Topics in Creative Writing Cr. 3

Topics include new genres, new media, and writing for public audiences. Models drawn from works written in diverse communities and cultures. Frequent individual conferences. Offered Yearly.

Repeatable for 9 Credits

ENG 5870 Poetry Writing Workshop Cr. 3

The writing of poetry, conducted on a seminar basis; discussion and criticism of the work of students in the course. Frequent individual conferences. Offered Yearly.

Repeatable for 6 Credits

ENG 5880 Fiction Writing Workshop Cr. 3

The writing of fiction, conducted on a seminar basis; discussion and criticism of the work of students in the course. Frequent individual conferences. Offered Yearly.

Repeatable for 6 Credits

ENG 5885 Topics in Creative Non-Fiction Writing Cr. 3

Study and practice of hybrid forms that blend reportage and imaginative writing. Attention to essays, memoir, and personal writing. Frequent individual conferences. Offered Yearly.

Repeatable for 9 Credits

ENG 5890 Writing for Theatre Cr. 3

Advanced study, in a workshop setting, of dramatic structure and writing for the theatre, terminating in the writing of an original stage play. Frequent individual conferences. Offered Biannually.

Equivalent: THR 5725

Repeatable for 6 Credits

ENG 5990 Directed Study in English Cr. 1-3

Advanced work for superior students whose program cannot be adequately met by scheduled classes. Course requires substantial written work. Offered Every Term.

Repeatable for 6 Credits

ENG 5992 Senior Seminar Cr. 3

In-depth study and discussion of topics to be announced in the Schedule of Classes. Attention to the use of primary and secondary sources in research and writing. Each student produces a substantial research project. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in English; enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

ENG 5993 Writing Intensive Course in English Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 6001 Pedagogical Practicum I Cr. 3

Instruction and resources to prepare newly-appointed graduate teaching assistants for teaching in the Wayne State composition program. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 6002 Teaching of Literary and Cultural Studies Cr. 3

Instruction in the teaching of literary and cultural studies through both individualized and group training. Offered for graduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 6004 Pedagogical Practicum II Cr. 3

Instruction and resources to support graduate teaching assistants during their first semester teaching in the Wayne State Composition Program. Offered for graduate credit only. Offered Winter.
Prerequisite: ENG 6001 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

ENG 6010 Tutoring Practicum Cr. 3

Integration of theories of language, learning and composition into a teaching practicum for prospective teachers at the secondary level and beyond. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Junior, Senior or Post Bachelor.

ENG 6720 Topics in Language Cr. 3

Topics such as: pragmatics, historical linguistics, history of English, language and gender, language and variation, language and evolution. Topics to be announced in the Schedule of Classes. Offered Yearly.
Equivalent: ENG 5720, LIN 6720
Repeatable for 12 Credits

ENG 6800 Advanced Creative Writing Cr. 3

Writing in any of the creative forms. Work by students presented in seminar meetings; frequent individual conferences. Topics to be announced in the Schedule of Classes. Offered Biannually.
Prerequisites: ([ENG 5860 with a minimum grade of B] OR [ENG 5870 with a minimum grade of B] OR [ENG 5880 with a minimum grade of B] OR [ENG 5885 with a minimum grade of B] OR [ENG 5890 with a minimum grade of B] OR [ENG 5695 with a minimum grade of B])
Repeatable for 9 Credits

ENG 7001 Issues in Critical Theory Cr. 3

Training in fundamental critical and professional issues through reading and writing about problems, issues and texts central to English studies. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 7002 History of Critical Theory Cr. 3

Instruction in the history of critical theory through examination of critical and/or representative texts in that history. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7003 Contemporary Literary Theory Cr. 3

In-depth reading of and education in contemporary literary works that are important to the discipline of English studies. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7004 Theoretical Issues in Cultural Studies Cr. 3

Intensive reading in and writing about central theoretical issues in cultural studies. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7005 Film Theory Cr. 4

Basic knowledge of film theory; especially for students who will have a concentration in film and media studies. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7006 Media Theory Cr. 4

Important issues and theories in media studies. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7007 Composition Theory Cr. 3

Seminar on such topics as: the writing process, computers in composition, theory of basic writing, theory of technical/professional writing. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7011 Studies in Medieval Literature Cr. 3

Selected topics such as: Arthurian legend, the alliterative revival, problems in Chaucer criticism. Offered Irregularly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7012 Sixteenth-Century Literature Cr. 3

Readings in representative works in literature in English of the 16th century. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7014 Seventeenth-Century Literature and Culture Cr. 3

Reading and writing about representative texts of 17th century literature in English. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7015 Studies in Shakespeare Cr. 3

Special problems in current scholarship and criticism. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7016 English Drama from the Medieval Cycle Plays to 1642 Cr. 3

Survey of representative English dramas from the medieval period to mid-seventeenth century. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7021 Studies in Restoration and Eighteenth Century Literature and Culture Cr. 3

Studies of particular authors or genres. Offered Irregularly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7022 Studies in Romantic Literature and Culture Cr. 3

Topics such as Wordsworth and Coleridge, crisis and triumph of the romantic imagination. Offered Irregularly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7023 Studies in Victorian Literature and Culture Cr. 3

Poetry, non-fictional prose, drama, fiction. Offered Irregularly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7024 The Rise of the Novel Cr. 3

Tracing the development of the novel. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7025 Fin de Siecle Cr. 3

Studies in turn of the century literature and culture. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7031 Naturalism and Realism Cr. 3

In-depth study of naturalist and realist writings, and of naturalism and realism as categories of classification. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7032 Modernism and Modernity Cr. 3

Studies in modernism as a literary and cultural movement and/or in modernity as a social, economic and cultural formation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7033 Postmodernism and Postmodernity Cr. 3

Studies in postmodernism as a literary and cultural movement and/or in postmodernity as a social, economic and cultural formation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7035 Cyberculture Cr. 3

Studies in cyberculture as a literary and cultural movement. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7041 Early American Literatures and Cultures Cr. 3

Studies in the literatures and cultures of the Americas from their beginnings to and/or into the nineteenth century. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7042 Nineteenth-Century American Literature and Culture Cr. 3

Advanced study of such topics as Puritanism, Transcendentalism, Fugitive Slave Narratives and Indian Captivity Narratives as evidenced in such authors as Dickinson, Douglass, Franklin, Hawthorne, Hutchinson, Jacobs, Whitman. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7043 Twentieth-Century American Literature and Culture Cr. 3

Advanced study of literary representations of crucial cultural issues as demonstrated among writers, movements, and selected texts. Possible writers include T.S. Eliot, Toni Morrison, Gertrude Stein; movements like Modernism and Postmodernism, and cultural phenomena like assimilation and reification may be treated. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7044 African-American Literature and Culture Cr. 3

Advanced study of topics in African-American literature. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7045 Ethnic American Literatures and Cultures Cr. 3

Study of the varieties of ethnic literature and culture in the Americas. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7046 Comparative American Literatures and Cultures Cr. 3

Stud of the literatures and cultures of the Americas from a comparative perspective. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7051 Introduction to Film and Media Studies Cr. 4

Historical and theoretical introduction to film and media studies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ENG 7053 Film and Media Genres Cr. 4

Survey of the genres of film and media studies. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ENG 7056 Comparative Media Cr. 3

Instruction in media from a comparative perspective, including but not limited to film, digital, visual, and auditory media. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7061 Rhetorical Theory Cr. 3

Survey of major rhetorical theories. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7062 Designing Research in Composition and Rhetoric Cr. 3

Survey of major research methodologies in rhetoric and composition. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7063 Historical Studies in Composition and Rhetoric Cr. 3

Survey of historical approaches to rhetoric and composition. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7064 The Teaching of Writing Cr. 3

Survey of major pedagogical theories in composition studies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7065 Writing Technologies Cr. 3

Study of rhetorical and pedagogical issues related to writing and technology. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7066 Writing in Multiple Settings Cr. 3

Survey of research into writing in specific settings such as urban and/or rural sites, workplaces, communities and organizations, or classrooms. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7710 Advanced Studies in Linguistic Structure Cr. 3

Current issues in linguistic theory, including but not limited to topics in phonology, morphology, syntax, semantics. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7710

Repeatable for 9 Credits

ENG 7720 Advanced Studies in Language Use Cr. 3

Current problems in language use, including issues in language variation, pidgins and creoles, first language acquisition, perception and production, and linguistic stylistics. Topics to be announced in the Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7720

Repeatable for 9 Credits

ENG 7770 Discourse Analysis Cr. 3

Analysis of inter-sentential relationships and of larger patterns. Implied and actual exchanges. Information ordering. Multi-level and intersectional analysis of expository prose. Topics to be announced in the Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7770

Repeatable for 9 Credits

ENG 7800 Seminar in Creative Writing Cr. 3

Intensive advanced study in creative writing and/or relevant critical theory. Topics such as: Writing the Novel, Narrative Perspective, Creative Text and Reader Response, to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ENG 7840 Technical and Professional Communication Cr. 3

Survey of contemporary research in technical and professional communication. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 7990 Directed Study in English Cr. 1-8

Advanced work for English majors whose program of study cannot be adequately met by scheduled classes. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ENG 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

ENG 8001 Seminar in Literary and Cultural Studies Cr. 3

Advanced special topics in literary and cultural studies. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8002 Seminar in Literary and Cultural Studies Before 1700 Cr. 3

Advanced special topics in literary and cultural studies before 1700. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8003 Seminar in Literary and Cultural Studies: 1660-1914 Cr. 3

Advanced special topics in literary and cultural studies between 1660 and 1914. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8004 Seminar in Literary and Cultural Studies After 1870 Cr. 3

Advanced special topics in literary and cultural studies after 1870. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8005 Seminar in American Literatures and Cultures Cr. 3

Advanced special topics in American literatures and cultures. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8006 Seminar in Film and Media Studies Cr. 4

Advanced special topics in film and media studies. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ENG 8007 Seminar in Rhetoric and Composition Studies Cr. 3

Advanced special topics in rhetoric and composition studies to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8008 Seminar in Theory Cr. 3

Advanced special topics in theory to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 8999 Master's Thesis Research and Direction Cr. 1-6

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ENG 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ENG 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ENG 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ENG 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

EPS - EDUCATIONAL LEADERSHIP AND POLICY STUDIES

EPS 8180 Research Seminar Cr. 2-6

Students develop research proposals, evaluate each other's research designs, and conduct any necessary pilot studies. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

EPS 8530 Seminar in the History of Education Cr. 4

The growth and development of American education K-16, including events, circumstances, and influential ideas. Emphasis on the relationship between social, political, and economic change and the evolution of education. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

EPS 8560 Administration in Higher Education Cr. 4

Examination of alternative theories of organizational and administrative behavior as these relate to colleges and universities. Consideration of the issues of academic governance and college bargaining as they impact on the role of the administrator. Special projects according to positions held and particular interests of students. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

EPS 8570 Contemporary Issues in Higher Education Cr. 4

Intensive exploration of major issues and problems confronting higher education. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

EPS 8710 Readings in General Administration Cr. 4

Directed readings in the principles underlying administration in education, government, business and social agencies and other major areas. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: EDA 8710

EPS 8880 Workshop in Administrative and Organizational Studies Cr. 1-10

Practicum in the study of current problems affecting administrative and organizational studies. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 10 Credits

EPS 9600 Seminar in Research and Theory of Administration Cr. 3

Research and theory relating to administration. Examination of textbooks, journals, and associations which promote educational administration research; review of the focus of inquiry and methodology for research in educational administration. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

EPS 9610 Seminar in Educational Policy Development Cr. 4

Role and nature of educational policies; observation, assessment, reporting, and discussion of policy-making bodies; review of policy research method; relationship of public values and public school policy. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

EPS 9620 Seminar in Educational Policy Initiatives Cr. 4

Recent policy initiatives in elementary and secondary education, with some attention to higher education. Techniques of policy analysis are utilized. Offered Fall.

Prerequisite: EPS 9610 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ET - ENGINEERING TECHNOLOGY

ET 1500 Engineering Technology Trades Internship Cr. 1-6

Industrial practice dealing with specific skill trades in engineering technology, under supervision in cooperative internship program. Offered Irregularly.

ET 2140 Computer Graphics Cr. 3

Solution of drafting problems and development of graphic presentations using computer-assisted drafting techniques. Use of programming techniques for direct solution of drafting/graphic problems and available software routines. Introduction to the use of computer plotters, CRTs, digitizers. Offered Fall, Winter.

Prerequisites: ([CSC 1050 with a minimum grade of D-])

Course Material Fees: \$15

ET 2160 Computer Applications for Engineering Technology Cr. 2

Various software programming environments and programming skills for engineering technology applications, including programming logic, file IO, data acquisition and processing, computer simulation, and communication protocols. Offered Fall, Winter.

Prerequisites: ([EET 2000 with a minimum grade of D-] OR [ET 2140 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ET 2200 Engineering Materials Cr. 3

Application and characteristics, both physical and chemical, of metallic and nonmetallic materials, polymers, and composites used in industry. The primary process involved in producing these materials. Offered Yearly.

Prerequisites: ([CHM 1020 with a minimum grade of D-])

ET 2500 Co-op Experience Cr. 1-4

Industrial practice under supervision in cooperative education. Work-study program. Report required. Offered Every Term.

Repeatable for 4 Credits

ET 3030 Statics Cr. 3

The analytical and graphic techniques for determining the forces acting upon and within a body or structural component under static load. Centroids and center of gravity. Moments of inertia. Offered Fall, Winter.

Prerequisites: ([CSC 1050 with a minimum grade of D-]) AND ([ET 2140 with a minimum grade of D-]) AND (May be taken concurrently: [ET 3430 with a minimum grade of D-]) AND ([PHY 2130 with a minimum grade of D-])

ET 3050 Dynamics Cr. 3

Kinematics; kinetics of particles; kinetics of translation and rotation of a rigid body; relative motion; use of equations of plane motion. Application of impulse and momentum principles; work and efficiency. Offered Yearly.

Prerequisites: ([ET 3030 with a minimum grade of D-]) AND ([MAT 3430 with a minimum grade of D-])

ET 3430 Applied Differential and Integral Calculus Cr. 4

Limits, derivatives, applications of derivatives, definite integrals and their applications, and trigonometric functions. No degree credit in Colleges of Liberal Arts and Sciences. Offered Fall, Winter.

Prerequisites: ([MAT 1800 with a minimum grade of D-])

Equivalent: MAT 3430

ET 3450 Applied Calculus and Differential Equations Cr. 4

A continuation of E T 3430, including logarithmic and exponential functions, first and second order ordinary differential equations, vectors, polar coordinates, Laplace transforms, Taylor series, and Fourier series. No degree credit in Colleges of Liberal Arts and Sciences. Offered Fall, Winter.

Prerequisites: ([ET 3430 with a minimum grade of D-])

Equivalent: MAT 3450

ET 3850 Reliability and Engineering Statistics Cr. 3

Probability, hypergeometric, binomial, Poisson, and normal probability distribution; confidence intervals; inferences concerning means; linear regression; introduction to statistical quality control and reliability; use of computers. Offered Fall, Winter.

Prerequisites: ([MAT 1800 with a minimum grade of D-])

ET 3870 Engineering Economic Analysis Cr. 3

Techniques to economically evaluate major technical projects, rate of return and present worth, interest formulae, federal taxes, risk, inflation, and non-economic constraints. Offered Every Term.

Prerequisites: ([MAT 1800 with a minimum grade of D-])

ET 4990 Guided Study Cr. 1-6

Supervised study and instruction in field selected by student. Offered Irregularly.

Repeatable for 6 Credits

ET 4999 Senior Project Cr. 3

Student designs, builds, and tests product; philosophy of design. Project proposal to be submitted by second week, final outcome to be completed by thirteenth week; progress reports, and oral presentation required. Offered Fall, Winter.

ET 5100 Fundamentals of Mechatronics and Industrial Applications Cr. 3

Fundamentals of mechatronics and their applications in industry; building blocks of mechatronic products including sensors, proximity, displacement and rotational measurement sensors, force and torque measurement sensors, pressure sensors, accelerometers, and actuators; introduction of closed-loop control, electrohydraulic motion control, PLC mechatronics design by embedding sensors, actuators and controllers into mechanical components. Offered Winter.

Prerequisites: ([EET 3180 with a minimum grade of D-] OR [MCT 3010 with a minimum grade of D-])

ET 5500 Graduate Industrial Internship Cr. 1-4

Industrial practice under supervision in cooperative education. Oral presentation and written report describing professional experience required. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ET 5870 Engineering Project Management Cr. 3

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. Offered Fall, Winter.

Prerequisites: ([MAT 1800 with a minimum grade of D-])

ET 5995 Special Topics in Engineering Technology I Cr. 1-4

Topics to be announced in Schedule of Classes. Offered Irregularly.

Repeatable for 8 Credits

ET 7300 Advanced Battery Systems for Electric-drive Vehicles Cr. 4

Aims to familiarize students with advanced battery technologies and their applications in hybrid and electric vehicles. Contents include: a descriptive overview of energy sources and conversions, HEV/PHEV/EV technology, hybrid powertrain configuration and components, in-vehicle energy storage systems, electrochemistry fundamentals, battery power and capacity/energy, battery system design (cell, module and pack), Battery Management System (BMS), cell monitoring and balancing, thermal management, on-board diagnostics, battery charging schemes and systems. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: EVE 7300

ET 7430 Methods of Engineering Analysis I Cr. 4

Applications of differential equations, partial derivatives, Laplace transforms, Fourier series, matrices, vectors. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

ET 7450 Methods of Engineering Analysis II Cr. 4

Computer applications and numerical methods of solving differential and integral equations, fast Fourier transforms, spectrum analysis, curve fitting, approximation of function. Offered Winter.

Prerequisite: CSC 1050 with a minimum grade of D- and ET 7430 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ET 7850 Statistical Methods and Applications Cr. 4

Sampling techniques in production data analysis, correlation coefficients, regression analysis, control charts, design of experiments, analysis of variance, Factor analysis. Offered Winter.

Corequisite: ET 7430

Restriction(s): Enrollment is limited to Graduate level students.

ET 7990 Directed Study Cr. 1-8

Supervised study and instruction in an advanced topic. Outline of proposed study and petition must be submitted to graduate committee in advance of registration for approval. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ET 7995 Special Topics in Engineering Technology II Cr. 1-4

Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ET 7999 Master's Project Cr. 1-6

Design, fabrication, system optimization, and applications of graduate level material. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 6 Credits

ETT - ELECTRICAL TRANSPORTATION TECHNOLOGY

ETT 3190 Fundamentals of Automotive Electrical and Electronic Systems Cr. 3

Foundations in contemporary automotive electronic systems. Topics include: review of automotive electronics, basic circuit building blocks, vehicle controllers, networking, diagnostics, sensors, actuators, and power electronics. Offered Fall.

Prerequisites: ((EET 2000 with a minimum grade of D-) AND ([PHY 2140 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4150 Fundamentals of Hybrid and Electric Vehicles Cr. 3

Hybrid and electric vehicle technologies: concepts and design, energy analysis, unified model approach, hybridization, hybrid powertrain architectures, IC engines for HEVs, transmissions used in HEVs, on-board energy storages. Offered Winter.

Prerequisites: ([ET 3430 with a minimum grade of D-]) AND ([PHY 2140 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4310 Energy Storage Systems for Hybrid and Electric Vehicles Cr. 3

Overview of advanced battery technologies and applications in EV/HEV, hybrid powertrain configuration and requirements, in-vehicle energy storage systems, battery development, thermal management, control systems, cell monitoring, balancing, and on-board diagnostics. Offered Winter.

Prerequisites: ([ET 3430 with a minimum grade of D-]) AND ([PHY 2140 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4410 Introduction to Advanced Energy Storage Cr. 3

Comprehensive coverage of energy storage for automotive and renewable energy; battery technology; hydrogen electrochemical cells and regenerative fuel cells; mechanical energy storage; thermal and chemical storage; superconductor. Offered Fall.

Prerequisites: ([ET 3430 with a minimum grade of D-]) AND ([PHY 2140 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4510 Power Management and Applications of Energy Storage Systems Cr. 3

Principles of electric machines, power electronics, control, and power management strategy for energy systems, and the applications of energy storage systems in alternative energy systems and electric drive vehicles. Offered Fall.

Prerequisites: ([ET 3430 with a minimum grade of D-]) AND ([PHY 2140 with a minimum grade of D-])

ETT 4650 Power Electronics and Charging Infrastructure for Hybrid and Electric Drive Vehicles Cr. 3

Principles of power systems, distribution systems, and ac/dc charging systems; applications of power electronic technologies in traction control, battery management, and regenerative braking for electric drive vehicles. Offered Winter.

Prerequisites: ([EET 3150 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4740 In-Vehicle Networking and Embedded Systems Cr. 3

Principles of data communications and real time embedded systems networking, with emphasis on in-vehicle networking. Controller Area Networks and FlexRay are covered. Project-oriented course utilizing various hardware/software. Offered Yearly.

Prerequisites: ([EET 3100 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

EVE - ELECTRONIC-DRIVE VEHICLE ENGINEERING

EVE 5110 Fundamentals of Electric-drive Vehicle Engineering Cr. 4

Cover engineering fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ME 5115

EVE 5120 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4

Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5310, CHE 5120, ME 5215

EVE 5130 Fundamentals of Fuel-cell Powered Systems for Transportation Cr. 4

Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5110, CHE 5110, ME 5110

EVE 5150 Advanced Energy Storages Cr. 4

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. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

Equivalent: AET 5150

EVE 5410 Power Electronics and Control Cr. 4

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. Offered Spring/Summer.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

Equivalent: ECE 5410

EVE 5430 Modeling and Control of Electric-drive Powertrains Cr. 4

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. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

Equivalent: AET 5330, ECE 5330

EVE 5450 Control and Optimization for Integrated Electric-drive Vehicle Systems Cr. 4

Understanding of how to control a system using modern control theory, how to optimize the performance of a system using various optimization technologies, and how to apply the control and optimization technologies to EDV systems. Offered Winter.

Prerequisite: EVE 5430

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

EVE 5600 Electric-drive Vehicle Product and Infrastructure Development Cr. 4

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. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

Equivalent: AET 5600, IE 6405

EVE 5620 Energy Economics and Policy Cr. 4

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. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

Equivalent: CHE 5620

EVE 5640 Energy and the Environment Cr. 4

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. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior.

Equivalent: AET 5640

EVE 5700 Electric-drive Vehicle Capstone Design Cr. 4

The class is divided into teams competing on same or similar Electric-Drive Vehicle (EDV) system design project on contemporary EDV issues with relevant vehicle powertrain and energy system contents, involving energy, environmental, safety and economic analyses. Offered Winter.

Prerequisites: ((EVE 5110)) AND ((EVE 5310) OR [EVE 5430])

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

EVE 5810 Power Management for Advanced Energy Storage Systems and its Applications Cr. 4

Operating principles and modeling of energy storage techniques; control and power management, power electronic converters, electric machines, and power systems; power management strategies of hybrid energy systems including HEV and alternative energy systems. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Engineering.

Equivalent: AET 5810

EVE 7300 Advanced Battery Systems for Electric-drive Vehicles Cr. 4

Aims to familiarize students with advanced battery technologies and their applications in hybrid and electric vehicles. Contents include: a descriptive overview of energy sources and conversions, HEV/PHEV/ EV technology, hybrid powertrain configuration and components, in-vehicle energy storage systems, electrochemistry fundamentals, battery power and capacity/energy, battery system design (cell, module and pack), Battery Management System (BMS), cell monitoring and balancing, thermal management, on-board diagnostics, battery charging schemes and systems. Offered Fall.

Prerequisite: EVE 5120 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ET 7300

EVE 7310 Electric-drive Vehicle Modeling and Simulation Cr. 4

Cover modeling, simulation and control of electric-drive vehicle powertrain including plant modeling, controls model development, and in-the-loop controls testing. Proficiency in MATLAB/Simulink is required. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ME 7315

EVE 7450 Embedded Systems for Vehicles Cr. 4

Advanced embedded processors and operating systems, power modules, auxiliary execution engine, display interface, memory controller, USB controller, DMA, I/O, initialization and configuration, programmable serial controller, serial audio interface, and video input. Offered Fall.

Prerequisite: EVE 5430 with a minimum grade of C

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

EVE 7990 Directed Study Cr. 1-4

Independent projects on subjects of interest in electric-drive vehicle engineering. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Repeatable for 4 Credits

EVE 7995 Special Topics in Electric-drive Vehicle Engineering Cr. 1-4

A consideration of special subject matter in electric-drive vehicle engineering. Topics to be announced in Schedule of Classes. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Repeatable for 4 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Repeatable for 8 Credits

FIN - FINANCE

FIN 3050 Personal Financial Planning Cr. 3

Principles of finance applied to personal financial affairs. Topics include: goal formation, cash budgeting, time value of money, insurance, real estate, banking, investments, tax planning, pensions, estate planning. Offered Irregularly.

FIN 3290 Business Finance Cr. 3

Principles of financial administration, with applications to problems of financial analysis, control, and planning by firms under changing economic conditions. Offered Every Term.

Prerequisites: (May be taken concurrently: [BA 2300 with a minimum grade of C])

FIN 4500 Business Co-op Assignment Cr. 0

Must be elected by Professional Development Co-operative Program students during work semester. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. No credit toward degree. Offered Every Term.

Equivalent: ACC 4500, MGT 4500, MKT 4500

FIN 4990 Directed Study in Finance Cr. 1-3

Advanced readings and research or tutorial under the supervision of a faculty member in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ([ACC 5100 with a minimum grade of D-]) AND ([FIN 5210 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Repeatable for 6 Credits

FIN 5000 Financial Statement - Analysis & Modeling Cr. 3

Tools and techniques necessary to build dynamic cash flow models. Advanced discussion on the relationship between the financial statements, modeling techniques to professionally present forecasts, valuations and transactional analyses. Successful completion of introductory courses in accounting and finance is required for this class and a basic working knowledge of Microsoft Excel is strongly recommended. Replaces ACC 5000 for finance majors. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([FIN 3290 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5090 Capital Markets Cr. 3

Detailed discussion of financial intermediaries; the capital markets; money markets, macroeconomics policies and interest rates. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [FIN 3290 with a minimum grade of B])

Restriction(s): Enrollment is limited to Undergraduate level students.

FIN 5215 Security Analysis and Portfolio Management Cr. 3

Focus on modern portfolio analysis; how characteristics of a portfolio differ significantly from those of the securities from which they are formed; investigation of the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT). Tools to manage investment risks, detect mispriced securities, and measure performance of investment managers. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [FIN 5000 with a minimum grade of C]) AND ([BA 3400 with a minimum grade of C]) AND ([FIN 3290 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5220 Portfolio Management Cr. 3

Principles of portfolio construction and administration applicable to various institutions including banks, insurance companies, mutual funds, and pension trusts. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([FIN 5215 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5270 Advanced Business Finance Cr. 3

Risk analysis, working capital management, capital budgeting and valuation theories. Role of financial management in maximizing value of the firm. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([FIN 3290 with a minimum grade of C]) AND ([BA 2300 with a minimum grade of C]) AND (May be taken concurrently: [FIN 5000])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5280 Entrepreneurs' Ecosystem Cr. 3

Focuses on resources available to the entrepreneur. Exposes the students to angel and superangel funding, microloans, crowdfunding, and various types of the venture capital funding avenues. Examines the challenges of financing and structuring a deal with financiers. Provides experience in pitching a business idea and understanding the anatomy of a successful business plan. Offered Winter.

Prerequisite: FIN 3290 with a minimum grade of C and FIN 5270 with a minimum grade of C

FIN 5320 Principles of International Finance Cr. 3

Financial management in an international context. Determination of exchange rates; their effect on the economy and financial securities; operation of multinational firms (MNCs) in this environment. Measurement and management of MNC exchange-rate exposures; tax regulatory arbitrage; international portfolio investment; determination of cost of capital for a foreign direct investment project and construction of its capital budget. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([FIN 3290 with a minimum grade of C]) OR [FIN 4290 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5330 Bank Management Cr. 3

Analysis of the functional areas of management of banks and related financial institutions, including deposits, cash, loans and asset accounts. Discussion of current topics including liquidity, capital adequacy, electronic fund transfers and mortgages. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ([FIN 3290 with a minimum grade of D-]) OR [FIN 4290 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5340 Valuation Cr. 3

Asset valuation is at the heart of intelligent financial decision-making, whether that takes the form of portfolio allocation, in deciding the appropriate price to pay or receive in a corporate merger or acquisition, investing in publicly traded securities or private firms, valuation of real estate, even valuing intangible assets such as brands. This course will provide you with the necessary tools, techniques, and models to address almost any valuation problem in finance. Offered Yearly.

Prerequisites: ([FIN 5270 with a minimum grade of C-])

FIN 5890 Internship in Finance Cr. 3

Minimum ten-page paper (excluding exhibits) discussing a problem or opportunity facing the sponsor organization, application of financial concepts, and outcomes relative to the problem or opportunity; summary presentation to department chairperson. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ((FIN 3290 with a minimum grade of C) OR [FIN 4290 with a minimum grade of C]) AND ((ISM 3400 with a minimum grade of C) OR [BA 3400 with a minimum grade of C] OR [ISM 4400 with a minimum grade of C]) AND ((ISM 3600 with a minimum grade of C) OR [BA 3600 with a minimum grade of C] OR [ISM 4600 with a minimum grade of C] OR [GSC 3600 with a minimum grade of C]) AND ((ISM 3630 with a minimum grade of C) OR [ISM 4630 with a minimum grade of C]) AND ((MGT 2530 with a minimum grade of C) OR [MGT 4530 with a minimum grade of C]) AND ((MKT 2300 with a minimum grade of C) OR [MKT 4300 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 6240 Financial Management for Engineers Cr. 4

Principles of financial reporting, financial analysis, and cost accounting relevant to effective engineering project management. Offered for undergraduate credit only. Offered Fall.

Restriction(s): Enrollment limited to students in the MS in Industrial Engineering program; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

FIN 6996 Corporate Financial Strategies Cr. 3

Advanced financial strategies dealing with cost of capital, mergers and other corporate reorganizations, investment banking and capital acquisition, dividend policy, lease financing, pension funds, convertible securities, international perspectives. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((ACC 5000 with a minimum grade of C) AND ((FIN 5215 with a minimum grade of C) AND ((FIN 5270 with a minimum grade of C))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 6997 Derivative Securities Cr. 3

Valuation of options, futures and swaps contracts on equities, fixed instrument securities and foreign exchange; use of these derivatives for risk management; brief review of empirical evidence. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((FIN 5215 with a minimum grade of C)

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 7000 Applied Financial Analysis Cr. 3

This course will bridge the gap between the study of financial theory in the classroom and the practical application of financial analysis in the home or workplace. A laptop with the most recent version of Excel will be required in every class session. Offered Irregularly.

Prerequisite: BA 7020

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7015 Managerial Economics and Quantitative Methods Cr. 3

Key concepts such as economic efficiency, cost-benefit analysis, break-even analysis and opportunity cost. Salient macroeconomics concepts including money supply, interest rate determination, employment growth rate and how they affect firm-level decision making. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7090 Money and Capital Markets Cr. 3

Financial intermediaries; the capital markets; the money market and interest rates. Offered Fall, Winter.

Prerequisites: ((BA 7020 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7220 Advanced Managerial Finance Cr. 3

Advanced topics in managerial finance, including leasing, merger valuation, reorganization, interactions of investment and financing decisions, and critical evaluation of alternative firm valuation theories. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7229 Corporate Valuation: Techniques, Models and Strategic Applications Cr. 3

Tools, techniques and models used to address valuation problems in finance; emphasis on corporate strategic valuation. Offered Yearly.

Prerequisites: ((BA 7020 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7230 Investment Policies Cr. 3

The key determinants of security prices under changing economic conditions. Theories, strategies and techniques for selection, timing, and diversification; methods of portfolio construction and administration. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7280 Entrepreneurial Finance and Venture Capital Cr. 3

The course focuses on the venture capital (VC) cycle and understanding and analyzing the unique financial issues which entrepreneurial start-up firms face. Two distinct perspectives are provided: (a) issues that relate to the venture capitalist and (b) issues that relate to the entrepreneur. As a result, the course should be of interest to those pursuing careers in an entrepreneurial setting as well as those who are interested in a career in venture capital firm, management buyouts or private equity firm. From the entrepreneur's point of view, students will gain experience in pitching a business idea and will learn how to create a successful business plan. We will examine how to determine the amount of capital needed by the venture and the challenges of financing and structuring a deal with financiers. We will also explore the venture capital's perspective and gain insights into the how VCs evaluate a business and what valuation method they use at different rounds of financing. We will also address several aspects of the investment process including the term sheet content and deal structure and negotiation. Offered Fall, Winter.

Prerequisites: ((BA 7020 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7290 Topics in Finance Cr. 3

Current developments in such areas as: working capital management, mergers and acquisitions, pension fund management, use of options and futures, high-risk debt management, hybrid securities, management of financial institutions, international financial issues, or market microstructure. Offered Yearly.

Prerequisites: ((BA 7020 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits**FIN 7330 Fixed Income Securities Cr. 3**

Covers the pricing of fixed income securities, examining topics such as bond mathematics, term structure of interest rates, measurement of interest rate risk using duration and convexity, yield spreads, spot and forward rates, and fixed income portfolio management. Offered Yearly.

Prerequisite: BA 7020 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7340 Futures and Options Cr. 3

Valuation of options, futures and swaps contracts on equities, fixed instrument securities and foreign exchange; use of these derivatives for risk management. Offered Yearly.

Prerequisites: ((FIN 7230 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7777 Corporate Financial Consulting Cr. 3

Provides an overview of the largest and most common categories of business consultancies, examples of the tools and techniques used to solve corporate finance problems, and group projects to address case study problems based on real world fact patterns. Offered Irregularly.

Prerequisite: FIN 7220 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7870 International Finance Cr. 3

Identification of basic factors affecting exchange rates; roles of central banks and international monetary system. Exchange-rate forecasting, balance of payments, international economic linkages. Management of foreign exchange risk (translation, transaction, and economic exposure) by hedging with financial derivative securities and using operational hedges that deal with marketing and production strategies. In-depth analysis of multinational companies' investment in foreign countries; cost-of-capital and capital-budgeting issues. Offered Yearly.

Prerequisites: ([BA 7020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7890 Internship in Finance Cr. 3

Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in finance. Offered Irregularly.

Prerequisites: ([BA 7020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7900 Mergers and Acquisitions Cr. 3

An in depth examination of the valuation complexities encountered in corporate restructuring and corporate change of control. The primary topics covered include the Mergers and Acquisitions (M&A) process, valuation using methods of comparables, precedent transactions, and Discounted Cash Flow (DCF) analysis. Financing M&A transactions, particularly using different kinds of debt used in leveraged buyouts will be discussed. Offered Irregularly.

Prerequisites: ([BA 7020 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FIN 7990 Portfolio Management/Student Managed Investment Fund (SMIF) Cr. 3

Exposes business students to practical security analysis techniques and investing approaches employed by professional investment managers. Recommended for those students seeking careers in investing, portfolio management, financial analysis, and related financial service industries. Offered Irregularly.

Prerequisites: ([BA 7020 with a minimum grade of C])

FIN 7995 Directed Study Cr. 1-3

Advanced independent readings and research under the supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ([BA 7000 with a minimum grade of C]) AND ([BA 7020 with a minimum grade of C]) AND ([BA 7040 with a minimum grade of C]) AND ([BA 7050 with a minimum grade of C]) AND ([BA 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 5 Credits

FPC - FINE ARTS: INTERDISCIPLINARY

FPC 1100 Computing in the Arts Cr. 2

Practical experience in web design, digital imaging and digital audio manipulation and discussion of relationship between digital arts and culture. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

FPC 5010 Special Topics Cr. 1-3

Offered Yearly.

Repeatable for 6 Credits

FPC 5025 Entrepreneurship in the Arts Cr. 3

Explores the possibilities of entrepreneurship as a career/life option. Students will identify the intersection of the arts, arts culture, entrepreneurship and the individual to provide a practical and meaningful guide to creating a professional career in the arts. Offered Winter.

FPC 5500 Topics in Art in Community Cr. 3

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. Offered Irregularly.

Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts.

Course Material Fees: \$25

FPC 5660 Creativity Cr. 3

Theoretical and experiential exploration in creativity and its relation to individuals, organizations, and the entrepreneurial process. Offered Yearly.

FPC 5990 CFPCA Service-Learning Cr. 0

Corequisite course used to designate the service-learning component of specified CFPCA courses. Maximum of three registrations allowed. Offered Every Term.

FPH - FAMILY PUBLIC HEALTH

FPH 7010 Seminar in Public Health Cr. 1

Introduction to basic public health concepts, functions, and activities. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7015 Biostatistics I Cr. 4

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. Online version is offered for non-M.P.H. students only during winter semesters. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7020 Biostatistics II Cr. 3

Statistical models for health-related fields. Analysis of variance, experimental design, linear regression, logistic regression and proportional hazards models. Topics include simple and multivariable models, model fitting procedures, model diagnostics and multiple comparisons procedures. Application of these methods to health-related data. Offered Fall.

Prerequisites: ([FPH 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7100 Health Care Organization and Administration Cr. 3

General overview of the U.S. health care system; social and organizational aspects of the delivery, financing, utilization, planning, and development of health care systems. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7150 Probability and Inference Cr. 4

Mathematical foundation of statistics based on principle of probability. It covers notions of probability, conditional probability, Bayes' theorem, random variables discrete/continuous, expectation and standard deviation, moment generating function, bivariate distribution, special sampling distribution (e.g. chi-square, t, F-distribution etc.), CLT, sufficiency, completeness, point estimation, MLE, unbiased and UMVUE, testing of hypothesis, UMP test, LRT, confidence interval, etc. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Biostatistics, Public Health or Public Health Practice; enrollment is limited to Graduate or Professional level students.

FPH 7160 Linear Regression and ANOVA Cr. 3

Statistical methods utilized in linear regression and analysis of variance (ANOVA). Theoretical underpinnings of linear model techniques are emphasized with a focus on gaining practical knowledge in linear model data analysis in public health. Topics will include model building strategies, assumption checking and the theoretical aspects of general hypothesis testing. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7210 Research Methods for Health Professionals Cr. 4

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. Offered Fall.

Prerequisites: (May be taken concurrently: [FPH 7015 with a minimum grade of B-]) AND (May be taken concurrently: [FPH 7240 with a minimum grade of B-])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7230 Health Program Evaluation Cr. 3

Principles and application of program evaluation in health care fields. Design, implementation, and management of evaluations in health environments. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7240 Epidemiology Cr. 3

Epidemiologist's task list; research of problems without known etiology; infectious and non-infectious models; examination of current problems. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7250 Applied Epidemiology Cr. 3

Epidemiological principles, practice, and methodology as applied to researchable health delivery or health questions. Emphasis on design, conduct and analysis of non-experimental studies; student design of epidemiological study. Offered Winter.

Prerequisites: ([FPH 7015 with a minimum grade of C]) AND ([FPH 7240 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7260 Epidemiologic Methods Cr. 2

Methodologic concepts underlying the science of epidemiology; conduct and interpretation of epidemiologic studies. Emphasis on elements of observational study design, data analysis, and inference, including issues related to causation, bias, and confounding. Offered Irregularly.

Prerequisite: FPH 7015 with a minimum grade of C and FPH 7240 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7300 Health Care Policy Cr. 3

Concepts, issues, and problems in health care policy; substantive information regarding policy formulation and content. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7320 The Social Basis of Health and Health Care Cr. 3

Social, cultural, and psychological aspects of health and health-related behavior. Topics include: health prevention and promotion, relationship between stress and illness, health services utilization, patient-practitioner interactions, and coping with chronic illness. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7340 Generalized Linear Models and Categorical Data Cr. 4

Statistical analysis of categorical and non-normal data, with an emphasis on the cohesive approach of generalized linear models. Specific types of models to be examined include logistic regression, probit regression, and log-linear models. Offered Winter.

Prerequisites: ([FPH 7150 with a minimum grade of C]) AND ([FPH 7160 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7350 Statistical Programming for Public Health Practice Cr. 2-3

Statistical programming using R and SAS in public health. SAS topics include error checking, reading datasets, coding and formatting variables, writing reports, tables, and graphs. R topics include data visualization and analysis, numeric optimization and bootstrapping. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

FPH 7370 Health, Disease, and Aging Cr. 3

Study of health, health problems, and medical care of aging populations. Biomedical, psychosocial and public health aspects of later life illness; family, community, and societal response to health problems; hospital and longterm care; disparities in health and medical care. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7390 Biostatistical Methods in Epidemiology Cr. 4

Application and interpretation of biostatistical methods used in epidemiologic studies. Topics include: approaches to missing data, sensitivity analysis, bootstrap methods, statistical power, sample size estimation, and analysis of ordinal exposures and outcomes. Offered Irregularly.

Prerequisite: FPH 7020 with a minimum grade of C and FPH 7260 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7420 Principles of Environmental Health Cr. 3

Current environmental health issues that affect individuals at work and in their communities. Sources of chemical, physical, and biological agents; their associated health effects. Air pollution, exposure prevention, water and solid waste management, and occupational health and safety. Impact of environmental exposures on human health; case studies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7440 Practicum in Public Health Cr. 3

Individual field experience in public health setting. Integration and synthesis of content and experiences of the public health courses; direct hands-on experience, with appropriate reporting mechanism. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7460 Linear Mixed Models Cr. 3

Statistical modeling to incorporate random effects. Topics will include clustered-data analysis, longitudinal data analysis, hierarchical linear models, correlated data, and covariance structure. Offered Winter.

Prerequisites: ([FPH 7150 with a minimum grade of C] OR [FPH 7160 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7480 Design of Experiments and Clinical Trials Cr. 3

Introduction to five different types of experimental designs and design and analytic issues that arise in each of the study designs. Extension of the designs to clinical trials and microarray experiments are discussed. Offered Fall.

Prerequisites: ([FPH 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7500 Survival Analysis Cr. 3

Statistical methods for analyzing survival data, including parametric and nonparametric approaches. Topics include Kaplan-Meier estimation, log rank test, and proportional hazards regression analysis. Offered Fall.

Prerequisites: ([FPH 7150 with a minimum grade of C] OR [FPH 7160 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7510 Community Health: Detroit Initiatives Cr. 2-3

Current urban health initiatives examined using a range of social science frames; focus on field work skills, perspectives, and methodologies useful for working with ongoing community-based initiatives and grass-roots organizations. Includes optional field experience for 1 credit. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7760 Community Health Education Cr. 3

Analysis of community health problems and change strategies for health promotion; application of principles and techniques of community health education to multiple ethnic groups and diverse health problems. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7860 Principles of Occupational Health Cr. 3

Current occupational health issues; interplay between work environment and worker health. Through case studies, students employ integrative approaches to ensure worker safety and to optimize worker health, well-being and performance. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7870 Occupational Health Psychology Cr. 3

Theory and research on relationships between the work environment and employee health and well-being; development and maintenance of health people within healthy organizations and the prevention of illness and injuries. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7880 Organizational Determinants of Employee Health and Productivity Cr. 3

Organizational and leadership theories, research and practical applications of practices and processes contributing to employee health and productivity; emphasis on service and knowledge workers, that make up 80 percent of the workforce. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 7990 Directed Studies in Community Health Services Cr. 1-6

Studies dealing with the public health practice and research to supplement regular course offerings. An approved directed study proposal is required prior to registration. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 8090 Interdisciplinary Perspectives on Addictions Cr. 3

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 multidisciplinary context. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 8990 Master's Project Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

FPH 8999 Master's Thesis Research and Direction Cr. 2-8

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

FRE - FRENCH

FRE 1010 Beginning French I Cr. 4

Introduction to the French language and Francophone cultures through interactive and communicative reading, writing, listening, and speaking activities to develop language and cultural proficiency. No experience with French is needed. Offered Every Term.

Course Material Fees: \$5

FRE 1020 Beginning French II Cr. 4

Continuing development of French language and Francophone cultural proficiency through interactive and communicative reading, writing, listening and speaking activities. Offered Every Term.

Prerequisites: ((FRE 1010 with a minimum grade of D-))

Course Material Fees: \$5

FRE 2010 Intermediate French Cr. 4

Continuing development of French language and Francophone cultural proficiency through interactive and communicative reading, writing, listening and speaking activities. Completion of this course fulfills the General education requirement for foreign language and culture. Offered Every Term.

Prerequisites: ((FRE 1020 with a minimum grade of D-))

Course Material Fees: \$5

FRE 2100 French through Film I Cr. 4

Increased mastery in French and Francophone linguistic and cultural proficiency through film and interactive and communicative reading, writing, listening and speaking activities. Offered Every Term.

Prerequisites: ((FRE 2010 with a minimum grade of D-))

FRE 2110 French through Film II Cr. 4

Increased mastery in French and Francophone linguistic and cultural proficiency through film and interactive and communicative reading, writing, listening and speaking activities. Offered Yearly.

Prerequisites: ((FRE 2100 with a minimum grade of D-))

FRE 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4

A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus and Unamuno. Offered Biannually.

Equivalent: GER 2700, ITA 2700, RUS 2700, SPA 2700

FRE 2710 Introduction to French Civilization I Cr. 3

An overview of France's great contributions to world culture, from the time of the Gauls to the French Revolution. French history, thought, art, architecture, society, geography, and institutions; illustrated with slides and films; includes visits to Detroit Institute of Arts. Offered Every Term.

FRE 2720 Introduction to French Civilization II Cr. 3

From the French Revolution to contemporary times. French way of life, its moral and intellectual foundations, its culture and institutions; their transformation under the stress of the twentieth century. Offered Biannually.

FRE 2990 Topics in Romance Studies: in English Translation Cr. 3

Individual themes, critical issues, special problems, or trends in interdisciplinary studies. Course is team-taught. Offered Fall, Winter.

Equivalent: ITA 2990, SPA 2990

FRE 2991 Understanding the Fairy Tale Cr. 3

Fairy tale's meaning and role in Western society from the Brothers Grimm to Walt Disney. Methods of fairy-tale interpretation. All lectures and reading in English. Offered Biannually.

Equivalent: GER 2991

FRE 3200 French Cafe Cr. 3

Students hone their speaking skills through discussions and debates about French and Francophone culture (film, television, graphic novels, podcasts) and current events. Offered Winter.

FRE 3300 Prose, Poetry, and Performance Cr. 3

An initiation into the reading of various literary genres. Study of methods and vocabulary to enable students to discuss and analyze essays, poems, short novels, and plays. Offered Fall, Winter.

Prerequisites: ((FRE 2010 with a minimum grade of D- and FRE 2100 with a minimum grade of D-)) OR ((FRE 2110 with a minimum grade of D-))

FRE 4610 Introduction to Literary Textual Analysis Cr. 3

Major genres and periods of French and francophone literatures; strategies of reading drawn from contemporary critical approaches. Offered Fall.

Prerequisites: (2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300)

FRE 4620 Topics in Sociocultural Analysis Cr. 3

Initiation into reading a range of different media, verbal and visual, in French and francophone cultural texts, from poetry to prose (fictional and non-fictional), to painting, photography, architecture, and other media. Offered Winter.

Prerequisites: (2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300)

FRE 5000 Minor Language Practicum Cr. 3

Controlled application of active language skills for students electing a Ph.D. minor in French. No degree credit toward Ph.D. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

FRE 5100 Advanced Composition Cr. 3

Focus on advanced composition skills through a close analysis of different types of texts with the goal of developing vocabulary and advanced writing and speaking abilities. Offered Winter.

Prerequisites: (2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300)

FRE 5200 French Phonetics and Pronunciation Cr. 3

Systematic study of French sounds and their relation to orthography, morphology, and grammar; syllable structure and phonetic transcription; prosody and intonation; intensive oral, aural, and written practice Offered Winter.

Prerequisites: (2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300)

FRE 5305 Advanced Grammar and Stylistics Cr. 3

Study of French grammar through the lens of literary texts, a variety of oral and written exercises that will develop the ability to analyze and think critically about French grammar and stylistics. Offered Fall.

Prerequisites: (2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300)

FRE 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

FRE 5999 Internship in French Studies Cr. 3

Internship in a public or private organization related to French Studies.

Offered for undergraduate credit only. Offered Every Term.

Prerequisite: FRE 3200 with a minimum grade of C- or FRE 3300 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in French or French Honors.

FRE 6400 Introduction to French Linguistics Cr. 3

Study of the historical development of French language standardization, language varieties, and various linguistic systems at work in the French language (e.g., phonology, morphology, syntax, semantics). Offered Biannually.

Prerequisites: ((FRE 5200 with a minimum grade of D-))

FRE 6450 French Civilization Cr. 3

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. Offered Biannually.

Prerequisites: (2 of FRE 3200, FRE 4610, FRE 4620)

FRE 6470 Contemporary French Society and Institutions Cr. 3

French political and social institutions and practices since World War II. Comparative study of examples from American institutions and practices. Offered Biannually.

Prerequisites: (2 of FRE 3200, FRE 4610, FRE 4620)

FRE 6510 French Sixteenth Century Literature Cr. 3

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. Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

FRE 6620 Topics in Sociocultural Analysis Cr. 3

Initiation into reading a range of different media, verbal and visual, in French and francophone cultural texts, from poetry to prose (fictional and non-fictional), to painting, photography, architecture, and other media. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

FRE 6630 French Seventeenth Century Literature Cr. 3

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 . Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

FRE 6650 French Eighteenth Century Literature Cr. 3

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 . Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

FRE 6770 Studies in French Literature Cr. 3

Study of one of the major literary genres: prose, poetry or drama; its development from origins to present time. Emphasis on textual analysis. Topics to be announced in Schedule of Classes. Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

FRE 6810 French Nineteenth Century Literature Cr. 3

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 . Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

FRE 6840 French Twentieth Century Literature Cr. 3

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. Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

FRE 6860 Francophone Literatures Cr. 3

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 . Offered Biannually.

Prerequisites: ([FRE 4610 with a minimum grade of D-] OR [FRE 4620 with a minimum grade of D-])

Repeatable for 6 Credits

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. Offered Irregularly.

FRE 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 7010, GER 7010, ITA 7010, NE 7010, SLA 7010, SPA 7010

FRE 7770 Special Studies in French Literature Cr. 3-4

Works of an outstanding writer, a literary genre, or of literary trends. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

FRE 7996 Research Project Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

FRE 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

FRE 8710 Seminar in the French Renaissance Cr. 3

Specified aspect, movement, author, or group of authors. Offered Biannually.

Prerequisites: ([FRE 6510 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

FRE 8720 Seminar in Seventeenth Century French Literature Cr. 3

Specified aspect, movement, author, or group of authors. Offered Biannually.

Prerequisites: ([FRE 6510 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

FRE 8730 Seminar in the French Enlightenment Cr. 3

Specified aspect, movement, author, or group of authors. Offered Biannually.

Prerequisites: ([FRE 6510 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

FRE 8740 Seminar in Nineteenth Century French Literature Cr. 3

Specified aspect, movement, author, or group of authors. Offered Biannually.

Prerequisites: ([FRE 6510 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

FRE 8750 Seminar in Twentieth Century French Literature Cr. 3

Specified aspect, movement, author, or group of authors. Offered Biannually.

Prerequisites: ((FRE 6510 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

FRE 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: FRE 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: FRE 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: FRE 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

FYS - FIRST YEAR SEMINAR

FYS 1010 First-Year Success Seminar Cr. 1

This course will support first-year students' academic and personal development to promote success at Wayne State University and establish learning as a lifelong experience. Topics covered will assist students in understanding themselves as learners, setting goals and strengthening time management and study skills while developing a greater awareness of the factors that influence success and the habits that can support success. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Freshman; enrollment is limited to Undergraduate level students.

FYS 1020 Preparing for Academic Success and Career Exploration Cr. 2

Through a process of introspection and interactive experiences, this course will improve your writing; enhance your decision making and critical thinking skills and expose you to university resources and to multiple career paths in throughout the university. Offered Fall, Winter.

GEL - GEOLOGY

GEL 1000 Geology and the Environment Cr. 4

Geological aspects of man's use of his environment including geological hazards; water; waste disposal; occurrence, use and depletion of natural resources. Offered Irregularly.

Course Material Fees: \$20

GEL 1010 Geology: The Science of the Earth Cr. 4

Introduction to continental drift and plate tectonic theory, geophysics and structure of earth's crust and interior; rocks and minerals; igneous and volcanic geology; work of running water, glaciers and ground water; geologic time; oceanography. One day field trip. Lecture and required laboratory. Meets General Education Laboratory Requirement. Offered Every Term.

Course Material Fees: \$15

GEL 1020 Interpreting the Earth Cr. 4

Sedimentary rocks, sedimentary structures and fossils as tools for interpreting the history of the earth. Paleocology of the geologic past and the structure of the earth are emphasized. Offered Fall, Winter.

Prerequisites: ((GEL 1010 with a minimum grade of C))

GEL 1050 Oceanography Cr. 4

Introductory course in oceanography; includes origin of the ocean basins; ocean currents, waves and tides; life in the oceans and marine ecology; food, mineral and energy resources of the sea. Offered Irregularly.

GEL 1370 Meteorology: The Study of Weather Cr. 3

Weather theory including cloud types, cloud formation; types and formation of winds; rain, snow, other precipitation. Storm theory. formation of and dangers in thunderstorms, hurricanes and tornadoes. Atmospheric phenomena: aurora, rainbows, the mirage, twinkling of stars, twilight crepuscular rays; weather forecasting, instruments, maps. Offered Winter.

GEL 2130 Mineralogy Cr. 4

Mineral identification using physical and optical properties. Introduction to petrographic microscope and electron microscope/microprobe. Properties and occurrences of major mineral groups and their environmental significance. Check with instructor for field trip destination; field trip to Canada frequently part of course. Offered Fall.

Course Material Fees: \$125

GEL 3100 Environmental Systems Analysis Cr. 4

Application of a common framework to quantitative analysis of fluxes, storage, and transformation of matter and energy within environmental systems. Applications include carbon cycling, nutrient cycling, air and water pollution, and population dynamics. Offered Fall.

Prerequisites: ((GEL 1010 with a minimum grade of D-)) AND ((MAT 1800 with a minimum grade of D-))

Course Material Fees: \$40

GEL 3160 Petrology Cr. 4

Classification of igneous and metamorphic rocks using macroscopic and microscopic material and textural characteristics. Occurrence and alteration of each major rock type related to tectonic settings. Mandatory four-day field trip. Offered Winter.

Prerequisites: ((GEL 1020 with a minimum grade of D-)) AND ((GEL 2130 with a minimum grade of D-))

Course Material Fees: \$125

GEL 3300 Structural Geology Cr. 4

Description and interpretation of features which result from the origin or deformation of rock masses. Offered Winter.

Prerequisites: ((GEL 1020 with a minimum grade of D-))

Course Material Fees: \$125

GEL 3400 Principles of Sedimentology and Stratigraphy Cr. 4

Processes which produce sediments, environments of deposition, changes after deposition. Relationship between tectonics and sedimentation. Origin of sedimentary strata. Facies and correlations. Offered Fall.

Prerequisites: ((GEL 1020 with a minimum grade of D-)) AND ((GEL 2130 with a minimum grade of D-))

Course Material Fees: \$20

GEL 3450 Principles of Paleontology Cr. 4

The history of life on earth as recorded in the fossil record. Using fossils to document the evolutionary history of plants, animals and ecosystems through geological time, as well as the practical applications of fossil material in stratigraphic correlation, basin analysis and resource exploration. Offered Fall.

Prerequisite: GEL 1010

GEL 3600 Special Topics in Geology Cr. 2-3

Subjects of general interest to geology majors. Topics may include: soil and groundwater pollution; petroleum geology; engineering geology; geochronology; gems and minerals. Offered Irregularly.

Prerequisites: ((GEL 1010 with a minimum grade of D-))

Repeatable for 16 Credits

GEL 3650 Field Geology Cr. 1-10

Field studies involving problems in individual geologic mapping and related techniques. Offered Irregularly.

Repeatable for 16 Credits

GEL 3800 Team Research Cr. 2

Students work in teams to design and implement a fieldwork based geologic research project. Students develop hypotheses, tests, and fieldwork plans, and they make thin sections and collect data on the scanning electron microscope, finishing with poster presentations. Offered Fall.

Prerequisite: GEL 1010 with a minimum grade of D-

GEL 3990 Directed Study Cr. 1-6

Offered Every Term.

Repeatable for 10 Credits

GEL 4200 Geomorphology Cr. 4

Principles underlying development of landforms by geologic agents. Offered Biannually.

Prerequisites: ((GEL 1020 with a minimum grade of D-))

Course Material Fees: \$15

GEL 4400 40-Hour HAZWOPER Training Cr. 2

Forty-hour responder-level Hazardous Waste Operations and Emergency Response (HAZWOPER) Training, including safe work practices and regulations, identification and classification of hazardous materials, emergency response, use of PPE and respirators. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

Course Material Fees: \$40

GEL 4860 Research Cr. 3-4

Primarily for honors students. Independent laboratory and field work. Offered Every Term.

Repeatable for 8 Credits

GEL 4998 Honors Thesis Cr. 3

Preparation of an Honors thesis on a subject of general interest to geology majors. Satisfactory completion assures Honors graduation, providing performance in preceding Honors courses has been at Honors level; to be taken under direction of Geology faculty. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior.

GEL 5000 Geological Site Assessment Cr. 4

Geologic methods for Phase I Environmental Site Assessments. Application of geostatistics to site characterization. Offered Biannually.

Prerequisites: ((GEL 1010 with a minimum grade of D-) OR [GEL 1000 with a minimum grade of D-])

GEL 5120 Environmental Geochemistry Cr. 4

Survey of some of the geochemical interactions which take place in Earth environments (water, soils, atmosphere, etc.) brought about by natural and human-induced chemical processes. Offered Biannually.

Prerequisites: ((CHM 1000 with a minimum grade of D-) AND ((GEL 1010 with a minimum grade of D-))

Course Material Fees: \$20

GEL 5150 Soils and Soil Pollution Cr. 4

Physical, chemical and mineralogical properties and classification of soils. Behavior of pollutants in soils and methods for reclamation. Offered Spring/Summer.

Prerequisites: ((CHM 1220 with a minimum grade of D-) AND ((CHM 1230 with a minimum grade of D-))

GEL 5210 Applied Geophysics Cr. 4

Introduction to applied geophysical methods used in subsurface exploration. Students will learn the basics of near-surface seismic, gravity, magnetic, electrical resistivity, and electromagnetic methods and data analysis. Offered Biannually.

Prerequisites: ((GEL 1010 with a minimum grade of D-, PHY 2130 with a minimum grade of D-, and PHY 2140 with a minimum grade of D-) OR [PHY 2170 with a minimum grade of D- and PHY 2180 with a minimum grade of D-]) AND ((GEL 3300 with a minimum grade of D-]) AND ((MAT 2010 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Course Material Fees: \$40

GEL 5420 Mathematical Methods in Earth Science Cr. 4

An introduction to mathematical methods in Earth Science focusing on an introduction to programming in Matlab, using statistical methods, Monte Carlo, and building towards finite difference numerical methods. Offered Biannually.

GEL 5450 Hydrogeology Cr. 4

Characteristics and behavior of groundwater in earth materials. Principles of groundwater flow and solute transport. Introduction to numerical models and methods. Offered Biannually.

Prerequisites: ((GEL 1010 with a minimum grade of D-) AND ((MAT 2010 with a minimum grade of D-))

GEL 5490 Glacial Geology of North America Cr. 4

Survey treatment of glacial processes; emphasis on the impact of the Laurentide Ice Sheet on the Great Lakes region. Course is offered at advanced undergraduate and graduate levels. Offered Irregularly.

GEL 5510 Environmental Fate and Transport of Pollutants Cr. 4

Basic principles of chemical behavior in the environment; sources, fate, and transport of contaminants. Offered Winter.

Prerequisites: ((CHM 1220 with a minimum grade of D-) OR [CHM 1240 with a minimum grade of D-] OR [CHM 1230 with a minimum grade of D-] OR [CHM 1250 with a minimum grade of D-]) AND ((MAT 2010 with a minimum grade of D-))

GEL 5600 Special Topics in Geology Cr. 4

Subjects of general interest to geology majors. Topics may include: mapping; soil and groundwater pollution; petroleum geology; engineering geology; mathematical methods in Earth Science; or others. Offered Irregularly.

GEL 5993 Writing Intensive Course in Geology Cr. 0

Disciplinary writing assignments under the direction of faculty member. Must be selected in conjunction with course designated as corequisite. See section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [GEL 3160 with a minimum grade of D-] OR [GEL 3300 with a minimum grade of D-] OR [GEL 3400 with a minimum grade of D-] OR [GEL 3540 with a minimum grade of D-] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

GEL 6400 Nuclear Geology Cr. 4

Introduction to various physical and chemical age-dating methods applied to geological and cosmological objects. Offered Biannually.

Prerequisites: (([PHY 2130 with a minimum grade of D- and PHY 2140 with a minimum grade of D-] OR [PHY 2170 with a minimum grade of D- and PHY 2180 with a minimum grade of D-]) AND ((CHM 1220 with a minimum grade of D- and CHM 1230 with a minimum grade of D-)) AND ((GEL 1010 with a minimum grade of D-))

GEL 6500 Economic Geology Cr. 4

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. Offered Biannually.

Prerequisites: ((GEL 2130 with a minimum grade of D-]) AND ((GEL 3160 with a minimum grade of D-]) AND ((GEL 3300 with a minimum grade of D-]) AND ((GEL 3400 with a minimum grade of D-))

Course Material Fees: \$125

GEL 7990 Directed Study in Geology Cr. 2-8

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GEL 7997 Research in Geology Cr. 3-4

Independent work in laboratory or field. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GER - GERMAN

GER 1010 Elementary German I Cr. 4

Development of ability to speak and read German. Offered Every Term.
Course Material Fees: \$5

GER 1020 Elementary German II Cr. 4

Continuation of GER 1010. Offered Every Term.

Prerequisites: ([GER 1010 with a minimum grade of D-])

Course Material Fees: \$5

GER 2010 Intermediate German I Cr. 4

Continuation of GER 1020. Reading of graded German literature and grammar review. Offered Every Term.

Prerequisites: ([GER 1020 with a minimum grade of D-])

Course Material Fees: \$5

GER 2020 Intermediate German II Cr. 4

Continuation of GER 2010. Offered Every Term.

Prerequisites: (May be taken concurrently: [GER 2010 with a minimum grade of D-])

Course Material Fees: \$5

GER 2310 Short Fiction from Central Europe and Russia Cr. 3

Explores how writers use short fictional forms, such as parable, short story, fairy tale, and satire, to express important themes in the Central European experience, including violence and cruelty, freedom and imprisonment, utopian visions, and urban life. Offered Fall.

Equivalent: SLA 2310

GER 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4

A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus, and Unamuno. Offered Biannually.

Equivalent: FRE 2700, ITA 2700, RUS 2700, SPA 2700

GER 2710 Survey of Germanic Culture I Cr. 3

Development of Germanic people from their origin to 1835; their major contributions of cultural significance to the Western world. Offered Fall.

GER 2720 Survey of Germanic Culture II Cr. 3

Development of Germanic people from 1835 to the present; the Nazi period; and World War II. Offered Winter.

GER 2991 Understanding the Fairy Tale Cr. 3

Fairy tale's meaning and role in Western society from the Brothers Grimm to Walt Disney. Methods of fairy-tale interpretation. All lectures and reading in English. Offered Biannually.

Equivalent: FRE 2991

GER 3100 Intermediate Composition and Conversation I Cr. 3

German of common usage. Practical approach to contemporary idioms. Offered Yearly.

Prerequisites: ([GER 2020 with a minimum grade of D-])

GER 3200 Intermediate Composition and Conversation II Cr. 3

German of common usage. Practical approach to contemporary idioms. Offered Yearly.

Prerequisites: ([GER 2020 with a minimum grade of D-])

GER 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3

Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American life. Offered Fall.

Equivalent: ARM 3410, POL 3410, RUS 3410, SLA 3410

GER 3700 The Changing Face of Europe Cr. 1-2

Special topics relating to Central, Eastern and Western Europe. Offered Irregularly.

Equivalent: POL 3700, RUS 3700, SLA 3700

GER 4600 Proseminar in German Studies Cr. 3

Introductory seminar in German Studies, designed to build skills in critical reading, research and writing. Focus is on a selected literary or cultural topic. Offered Irregularly.

Prerequisites: ([GER 3100 with a minimum grade of D-]) AND ([GER 3200 with a minimum grade of D-])

GER 5000 German Practicum Cr. 3

Controlled application of active language skills for students electing a Ph.D. minor in German, or German as a graduate reading language. No Ph.D. degree credit. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

GER 5100 Advanced Composition and Conversation Cr. 3

Emphasizes improvement of student's oral and written command of German. Detailed study of modern German syntax. Offered Biannually.

GER 5350 German Film Cr. 3

Film as a new medium in late 19th century and early 20th century Germany; films produced during the Weimar Republic and under fascism; post-war West and East German cinema; German film since unification. Taught in English. Offered Fall.

GER 5390 Holocaust Studies Cr. 3-4

Interdisciplinary approach to studying the Holocaust that includes history, literature, film, aesthetics, presentation and reception, and other areas that encourage a broad and deep understanding of Holocaust Studies. Offered Irregularly.

GER 5400 Cultural Studies and Criticism Cr. 3-4

Exploration of key concepts and major figures for scholarship in literary and cultural studies. Readings and class in English. Open to students from diverse disciplines. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

GER 5600 Research in German Studies Cr. 3-4

Introductory seminar for graduate students in German studies that will prepare them to write graduate research papers. Focus on a particular topic of current relevance in German studies to help participants develop skills as critical readers, researchers, and writers of scholarship-based textual analysis. Offered Fall.

Prerequisites: ([GER 4600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate level students.

GER 5670 Nineteenth Century German Studies Cr. 3-4

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of Nineteenth-century German literature and culture. Offered Irregularly.

Repeatable for 8 Credits

GER 5720 Eighteenth Century German Literature and Culture Cr. 3-4

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of eighteenth-century German literature and culture. Offered Irregularly.

Repeatable for 8 Credits

GER 5770 Modernism Cr. 3-4

Fin-de-siecle Germany and Austria, modernism and the metropolis, modernism and the new media (film, radio), art and politics of the Weimar Republic. Offered Irregularly.

Repeatable for 8 Credits

GER 5780 Texts and Contexts Since 1945 Cr. 3-4

Recent and contemporary literary and cultural works in context of the political, social and intellectual developments since 1945. Offered Irregularly.

Repeatable for 8 Credits

GER 5790 Topics in German Studies Cr. 1-4

Special topics in German studies, focusing on culture, literature, language, or area studies. Topics to be announced in Schedule of classes. Offered Irregularly.

Repeatable for 12 Credits

GER 5800 Literature and Cultures of Minorities Cr. 3-4

Focuses on literature by and about marginalized groups and on their cultures in postwar Germany. Offered Irregularly.

GER 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

GER 5993 Writing Intensive Course in German Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [GER 4600] OR [GER 5000] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

GER 5999 Internship in German Studies Cr. 3

Internship in a public or private organization related to German studies. Offered for undergraduate credit only. Offered Every Term.

Prerequisite: GER 3100 with a minimum grade of C- or GER 3200 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in German or German Honors.

GER 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 7010, FRE 7010, ITA 7010, NE 7010, SLA 7010, SPA 7010

GER 7390 Holocaust Studies Cr. 3-4

Interdisciplinary approach to studying the Holocaust that includes history, literature, film, aesthetics, presentation and reception, and other areas that encourage a broad and deep understanding of Holocaust Studies. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

GER 7400 Cultural Studies and Criticism Cr. 3-4

Exploration of key concepts and major figures for scholarship in literary and cultural studies. Readings and class in English. Open to students from diverse disciplines. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

GER 7670 Nineteenth Century German Studies Cr. 3-4

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of Nineteenth-century German literature and culture. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GER 7720 Eighteenth Century German Literature and Culture Cr. 3-4

Writers, genres, literary and intellectual movements, and thematic explorations that contribute to an understanding of eighteenth-century German literature and culture. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: GER 5720

Repeatable for 8 Credits

GER 7770 Modernism Cr. 3-4

Fin-de-siecle Germany and Austria, modernism and the metropolis, modernism and new media (film, radio), art and politics of the Weimar Republic. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GER 7780 Texts and Contexts Since 1945 Cr. 3-4

Recent and contemporary literary and cultural works in context of the political, social and intellectual developments since 1945. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GER 7790 Topics in German Studies Cr. 1-4

Special topics in German studies, focusing on culture, literature, language, or area studies. Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

GER 7800 Literatures and Cultures of Minorities Cr. 3-4

Focuses on literature by and about marginalized groups and on their cultures in postwar Germany. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

GER 7996 Research Project Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

GER 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GER 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: GER 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: GER 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: GER 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

GKA - GREEK: ANCIENT

GKA 1010 Elementary Ancient Greek I Cr. 4

Basic vocabulary, forms, grammar, and introduction to ancient Greek culture. Offered Fall.

Course Material Fees: \$5

GKA 1020 Elementary Ancient Greek II Cr. 4

Continuation of GRK 1010 with increasing emphasis on reading ability. Offered Winter.

Prerequisites: ([GKA 1010 with a minimum grade of D-])

Course Material Fees: \$5

GKA 2010 Intermediate Ancient Greek I Cr. 4

Review of Greek grammar, and readings from selected Greek prose authors such as Plato and Lysias. Offered Fall.

Prerequisites: ([GKA 1020 with a minimum grade of D-])

Course Material Fees: \$5

GKA 2020 Intermediate Ancient Greek II Cr. 4

Introduction to genre; poetic language, meters, sociological and historical context; reading of selected passages from the Iliad or the Odyssey; study of the fundamentals of Homeric Greek. Offered Winter.

Prerequisites: ([GKA 2010 with a minimum grade of D-])

GKA 3300 Greek Tragedy Cr. 4

One tragedy of Euripides, Sophocles, or Aeschylus, supplemented by selections from the dramas of the other two playwrights. Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

GKA 5000 Ancient Greek for Graduate Students Cr. 1-4

Basic grammar and vocabulary of Greek; leads to reading of continuous passages of poetry and prose in Greek. No credit applicable to M.A. in classics degree. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

GKA 5100 Ancient Greek Prose Composition Cr. 2-4

Practice in the essentials of writing idiomatic and stylistic Greek prose. Instruction will be guided by readings and imitation of exemplary Greek prose authors. Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

GKA 5200 Ancient Greek Lyric Poetry Cr. 4

Personal lyric poetry as a reflection of individual and society in the culture of the post-Homeric Greek world. Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

GKA 5350 Readings in Ancient Greek History and Culture Cr. 1-3

Readings in Greek primary sources relevant to the associated CLA course (which is taught in English). Offered Every Term.

Prerequisites: ([GKA 3000 with a minimum grade of D-] OR [GKM 3000 with a minimum grade of D-]) AND (May be taken concurrently: [CLA 5000 with a minimum grade of D-])

Repeatable for 6 Credits

GKA 5400 Ancient Greek Philosophy Cr. 4

The origin and development of Greek philosophy as seen through representative selections from prominent philosophers such as the Presocratics, Plato, Aristotle, Epicurus, and the Stoics. Offered Irregularly.

GKA 5500 Ancient Greek Historians Cr. 4

Prose style and historiographic techniques of ancient historians; selections from Herodotus, Thucydides, Xenophon, and Polybius. Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

GKA 5600 Ancient Greek Epic Poetry Cr. 4

Study in ancient Greek of Homer, Hesiod, Apollonius Rhodius and others. Theory of oral vs. literary composition, the Homeric question, metrics.

Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

GKA 5840 Ancient Greek: Attic Orators Cr. 4

Evolution of Greek prose style and historical context of the development of rhetoric in selected works of Attic orators. Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

GKA 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

GKA 6250 Ancient Greek Drama Cr. 4-8

Selected readings from the plays of Aeschylus, Sophocles, or Euripides or from the plays of Aristophanes or Menander. History and theory of the development of Greek drama and its subsequent influence on world literature. Offered Irregularly.

Prerequisites: ([GKA 2020 with a minimum grade of D-])

Repeatable for 8 Credits

GKA 7810 Studies in Ancient Greek Poetry Cr. 4

A major poet or genre. Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

GKA 7820 Studies in Ancient Greek Prose Cr. 4

Study of a major prose author or genre. Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

GKA 7999 Ancient Greek: Master's Essay Direction Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

GKA 8999 Ancient Greek: Master's Thesis Research and Direction Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GKM - GREEK: MODERN

GKM 1010 Elementary Modern Greek I Cr. 4

Training in pronunciation, conversation and reading; introduction to the culture of Greece today. Offered Fall.

Course Material Fees: \$5

GKM 1020 Elementary Modern Greek II Cr. 4

Continuation of GKM 1010. Offered Winter.

Prerequisites: ([GKM 1010 with a minimum grade of D-])

Course Material Fees: \$5

GKM 1160 Accelerated Modern Greek Cr. 6

Accelerated course covering the material for GKM 1010 and GKM 1020 in one semester. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

GKM 2010 Intermediate Modern Greek I Cr. 4

Review of grammar, practice in oral and written modern Greek, based on readings in modern Greek literature. Offered Fall.

Prerequisites: ([GKM 1020 with a minimum grade of D-])

Course Material Fees: \$5

GKM 2020 Intermediate Modern Greek II Cr. 4

Special attention to vocabulary enrichment and writing compositions. Class conversation based on reading of cultural materials and short stories. Translation exercises from English to Greek; study of appropriate grammar rules. Offered Winter.

Prerequisites: ([GKM 2010 with a minimum grade of D-])

Course Material Fees: \$5

GKM 3530 The World of Early Christianity Cr. 3

A historical survey of the cultural, social, and literary world of early Christianity. Offered Yearly.

Equivalent: CLA 3530

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. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: CLA 3590

GKM 3610 Readings in the Modern Greek Tradition Cr. 3

Close readings of major post-classical Greek authors from Byzantine era to 20th century. Taught in English. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

GKM 3710 Modern Greek Literature and Culture in English Cr. 3-4

Survey of the culture and civilization of modern Greece through a study of modern Greek history, religion, and literary traditions. Offered Every Term.

GKM 3720 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. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: CLA 3720

GKM 3930 Topics in Byzantine and Modern Greek Studies Cr. 3

In-depth study of aspects of Byzantine and Modern Greek history, society, literature, and culture. Topics to be announced in Schedule of Classes. All readings in English. Offered Yearly.

Repeatable for 9 Credits

GKM 3990 Directed Study Cr. 1-4

For students desiring additional work in the language at the intermediate level; for programs of work not included in scheduled courses, either in language or literature. Offered Every Term.

Prerequisites: ([GKM 2020 with a minimum grade of D-])

Repeatable for 8 Credits

GKM 5000 Modern Greek for Graduate Students Cr. 1-4

Basic grammar and vocabulary of modern Greek. Emphasis on conversation, reading and writing. Offered for graduate credit only.

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

GKM 5530 The World of Early Christianity Cr. 3

A historical survey of the cultural, social, and literary world of early Christianity. Offered Yearly.

Equivalent: CLA 5530

GKM 5590 Byzantine Civilization Cr. 3

Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 5590

GKM 5720 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. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 5720

GKM 5930 Topics in Byzantine and Modern Greek Studies Cr. 3

In-depth study of aspects of Byzantine and Modern Greek history, society, literature, and culture. Topics to be announced in Schedule of Classes. All readings in English. Offered Yearly.

Repeatable for 9 Credits

GKM 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

GLS - GLOBAL STUDIES

GLS 2700 Introduction to Global Stories Cr. 3

Provides students with an introductory understanding of constructions and representations of global issues and globalization in literature, film, media and the visual arts and of the ways in which human stories contribute to complex matrices of representation. Offered Fall, Winter.

GLS 2800 Introduction to Global Issues and Institutions Cr. 3

Provides a broad overview of some of the big and controversial questions facing our increasingly globalized world today and introduces some of the tools we have to confront these issues. Topics include the conflict and security threats, protection of human rights, global warming, and resource management. Offered Fall, Winter.

Equivalent: HIS 2800

GLS 2900 Intercultural Competence for a Global World Cr. 3

The objectives of this course are to explore cultures via characteristics of intra-cultural communication (varieties of language marked by history and region, gender, and migration); to acknowledge regional and ethnic variations of cultural value systems as expressed in everyday interactions as well as cultural products; to learn to reflect on one's own cultural "branding" or vantage point as determined by ethnicity, region, and language(s) as well as within the context of lifelong learning at home and abroad. Offered Winter.

GLS 3410 Global Health Cr. 3

Introduces students to problems of disease and disorder worldwide and looks at various efforts to define and address these problems through a social science perspective. Offered Biannually.

Equivalent: ANT 3410, PH 3410

GLS 3700 Globalization: Theories, Practices, Implications Cr. 3

Students develop analytical tools for appraising processes of globalization; acquire a familiarity with the current topical concerns of global studies; and examine economic, political, and cultural approaches to globalization. Offered Fall, Winter.

Equivalent: ANT 3700

GLS 3810 Topics in Global Studies Cr. 1

Special topics in global history, politics, culture, science, health, law, philosophy, language, and other fields and issues. Topics to be announced in the class schedule. Offered Every Term.

Repeatable for 6 Credits

GLS 3830 Topics in Global Studies Cr. 3

Special topics in global history, politics, culture, science, health, law, philosophy, language, and other fields and issues. Topics to be announced in the class schedule. Offered Every Term.

Repeatable for 6 Credits

GLS 5500 Internship in Global Studies Cr. 3

Offered for undergraduate credit only. Internship in a public or private organization related to global studies. Offered Every Term.

Prerequisite: GLS 3700 with a minimum grade of C-

GLS 5540 World Environmental History since 1900 Cr. 4

This course examines the transformation of the relationship between human society and the natural environment in global context since 1900. Available for undergraduate credit only. Offered Fall.

Equivalent: HIS 5540

GLS 5993 Writing Intensive Course in Global Studies Cr. 0

Offered for S and U grades only. No degree credit. Required for all majors. Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Every Term.

Prerequisites: (May be taken concurrently: [ASN 5825 with a minimum grade of C-, ECO 5300 with a minimum grade of C-, ECO 5310 with a minimum grade of C-, ECO 5600 with a minimum grade of C-, ITA 5150 with a minimum grade of C-, NE 5000 with a minimum grade of C-, PS 4810 with a minimum grade of C-, PS 5710 with a minimum grade of C-, PS 5760 with a minimum grade of C-, and PS 6870 with a minimum grade of C-]) AND ([GLS 3700 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students.

GPH - GEOGRAPHY

GPH 1100 World Regional Patterns Cr. 4

Concepts and theory in analyzing areal relationships and distinguishing regional patterns of human activity; cultural factors and physical conditions (climate, landforms) as factors in regional delineations; comparisons and contrasts in regional economic development; analysis of concentrations/dispersals of human activity; local, national and regional phenomena in the interpretation of global patterns. Offered Every Term.

GPH 2000 Introduction to Urban Studies Cr. 4

Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.

Equivalent: HIS 2000, PS 2000, SOC 2500, US 2000

GPH 2200 Geography of Michigan Cr. 3

The spatial physical, social, environmental, settlement and developmental patterns and problems of the State of Michigan. Offered Irregularly.

GPH 2700 Introduction to Canadian Studies Cr. 3

Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.

Equivalent: ENG 2670, HIS 2700, PS 2700

GPH 3130 Introductory Urban Geography Cr. 4

An introduction to the geographer's view of cities, with emphasis on the North American city. Topics include the pre-industrial city, migration, evolution of the American urban pattern, city classification, city-regional relationships, and the city's internal structure (ethnic, residential, commercial, and industrial). Offered Yearly.

GPH 3200 Europe Cr. 3

Analysis of European countries. Emphasis on population changes resource problems, industrial location, urbanization, regional development, and emerging economic and political unities. Offered Irregularly.

GPH 3600 Introduction to Geographic Information Systems Cr. 4

Theory and application of computer-based systems for the analysis and representation of spatial data. Offered Yearly.

GPH 3900 Topics In Geography Cr. 3

Offered Biannually.

Repeatable for 6 Credits

GPH 3990 Directed Study Cr. 1-3

Readings and research. Offered Every Term.

Repeatable for 9 Credits

GPH 4510 Cities And Regions Cr. 4

Offered Winter.

Prerequisites: ([US 2000 with a minimum grade of D-] OR [GPH 2000 with a minimum grade of D-] OR [HIS 2000 with a minimum grade of D-] OR [PS 2000 with a minimum grade of D-] OR [SOC 2000 with a minimum grade of D-])

Equivalent: US 4510

GPH 4600 Advanced Geographic Information Systems Cr. 4

Application of GIS to analyses of spatially-referenced data. Offered Yearly.

Prerequisites: ([GPH 3600 with a minimum grade of D-])

Repeatable for 998.99 Credits

GPH 5650 Metropoltn Detroit Cr. 3

Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: UP 5650

GPH 6420 Quantitative Techniques I Cr. 4

Statistical inference with emphasis on applications including central tendency, dispersion, hypothesis testing, correlation and regression.

Offered for undergraduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: UP 6320

GPH 6700 Geographic Information Systems Cr. 4

Principles and applications of GIS, including spatial statistics, computer graphics, computer cartography. Offered Yearly.

Equivalent: UP 6700

GPH 7990 Directed Study Cr. 2-3

Readings and research. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GPH 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

GS - GRADUATE SCHOOL

GS 0900 Essential Research Practices: Responsible Conduct of Research Cr. 0

This course presents both general and directed instruction/discussion in topics related to Responsible Conduct of Research (RCR). Available for S/U grading only. Offered Fall, Winter.

GS 7890 Preparing Doctoral Trainees for Multiple Careers Cr. 1

Offered by the Graduate School for doctoral students who wish to better prepare for various professional careers. Focuses on enhancing students' skill sets for navigating the job market. This course is open to doctoral students who have completed at least one year of coursework and who have not yet entered maintenance status. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 2 Credits

GS 7900 Introduction to College Teaching and Learning Cr. 1

Provides an introduction to the principles and performance of college teaching through an examination of current research and best practices related to teaching and learning in a range of higher education settings and contexts (i.e., traditional, hybrid and online). It offers opportunities for the development and improvement of participants' instructional skills from both a theoretical and a practice-based understanding of excellence in teaching. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 2 Credits

GS 7991 Doctoral Program Internship Course Cr. 1-2

Practical training experience in industry, government offices/labs or other professional settings. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 2 Credits

GSC - GLOBAL SUPPLY CHAIN MANAGEMENT

GSC 3600 Operations and Supply Chain Management Cr. 3

Analysis of production and supply chain systems. Topics include forecasting, production planning and scheduling, quality control, cost control, inventory control, capacity planning, purchasing, logistics, risk management, and other related subjects. Extensive coverage of SCM strategy, manufacturing, and general SCM strategy related to purchasing and logistics. Offered Every Term.

Prerequisites: ([ISM 2300 with a minimum grade of D-] OR [BA 2300 with a minimum grade of D-] OR [ISM 3300 with a minimum grade of D-] OR [ECO 4100 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

GSC 4990 Directed Study in Global Supply Chain Management Cr. 1-3

Advanced readings and research or tutorial under supervision of faculty member. Offered Every Term.

Prerequisites: ([GSC 5620 with a minimum grade of C] OR [BLG 5620 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students.

GSC 4991 Study Abroad in Supply Chain Management Cr. 3

Study abroad programs in various countries. Programs run 10-15 days in length. Recent country programs in China, Poland, and Italy. Travel within a given country with visits to various companies and cultural attractions. Traveling costs are over and above tuition and vary by country. Various reading and assignments required. Offered Every Term.

GSC 5600 Logistics and Transportation Strategy Cr. 3

An overview of logistics strategy with an emphasis on transportation. Study of the management of the movement of raw materials and finished products including the development of transportation strategies and objectives, and the selection of modes and carriers. Offered for undergraduate credit only. Offered Fall, Spring/Summer.

Prerequisites: ([GSC 3600 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5620 Global Supply Chain Management Cr. 3

Concepts of managing operations and supply chains that span multiple countries. Topics covered include, Sourcing in International Settings, Global Logistics and Trade Management, Global Plant Location and Manufacturing Network Design, and Managing International Production Operations. Emerging concepts in the discipline will also be discussed. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([MKT 2300 with a minimum grade of D-] OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5650 Strategic Procurement Cr. 3

Principles of the purchasing function with topics including sourcing decisions, negotiations, buyer/seller relationships in the supply chain, supplier quality issues, supplier selection, price determination, ethical issues, legal issues, and international issues. Extensive coverage of automotive industry topics and perspectives. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5670 Special Topics in Supply Chain Management Cr. 3

Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Repeatable for 6 Credits

GSC 5680 Production Planning and Control Cr. 3

Concepts for planning and management of production resources in manufacturing organizations. Topics covered include: Demand Management, Sales and Operations Planning, Master Production Scheduling, Materials Requirement Planning, and Capacity Planning in a manufacturing environment. Emerging concepts in the discipline will also be covered. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ([ISM 3600 with a minimum grade of D-] OR [BA 3600 with a minimum grade of D-] OR [ISM 4600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5690 Principles of Quality Management Cr. 3

Quality control overview with a focus on auto industry processes and including Advanced Product Quality Planning (APQP) processes for new product development in the auto industry, Six Sigma processes, statistical quality control including process capability, control charts, and acceptance sampling procedures. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([GSC 3600 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5890 Internship in Global Supply Chain Management Cr. 3

Student works a minimum of 160 hours. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([FIN 3290 with a minimum grade of D-] OR [FIN 4290 with a minimum grade of D-]) AND ([ISM 3400 with a minimum grade of D-] OR [BA 3400 with a minimum grade of D-] OR [ISM 4400 with a minimum grade of D-]) AND ([ISM 3600 with a minimum grade of D-] OR [BA 3600 with a minimum grade of D-] OR [ISM 4600 with a minimum grade of D-]) AND ([ISM 3630 with a minimum grade of D-] OR [ISM 4630 with a minimum grade of D-]) AND ([MGT 2530 with a minimum grade of D-] OR [MGT 4530 with a minimum grade of D-]) AND ([MKT 2300 with a minimum grade of D-] OR [MKT 4300 with a minimum grade of D-]) AND ([GSC 3600 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5996 Process Analysis and Cost Estimating for Buyers Cr. 3

Focused on providing future buyers and SCM professionals an understanding of basic production processes and the cost and quality drivers that impact supplier performance. Helps buyers learn what to look for when visiting suppliers. Teaches students how to identify and evaluate supplier cost and quality drivers. There will be multiple supplier visits during class hours. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ([GSC 3600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 6997 Global Supply Chain Analysis and Planning Cr. 3

Capstone course in Global Supply Chain Management major.

An emphasis on analysis, planning and strategy. Use of supply chain simulation games and/or cases to provide students with a comprehensive view of supply chain issues, and an experience running a simulated supply chain, and/or addressing critical problems from a case perspective. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([GSC 3600 with a minimum grade of D-]) AND ([GSC 5620 with a minimum grade of D-]) AND ([GSC 5650 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the BA in Business Administration or BS in Business Administration programs; enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 7010 Supply Chain Decision Tools Cr. 3

Provides hands-on familiarity with supply chain decision tools and fundamental approaches to supply chain decision making. Examples of topics covered include multi criteria decision making, efficiency analysis, cost-benefit analysis, decision analysis with simulations, etc. Capabilities of state of the art decision tools available to managers will also be discussed. Offered Every Term.

Prerequisites: ([BA 6090 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7260 Theory of Constraints: Breakthrough Solutions Cr. 3

Problem solving based on Theory of Constraints logic process. Use of cause-effect logic diagrams to identify root cause of problems, discover breakthrough solutions, specify expected results of these solutions (including negative side effects which can thus be avoided), overcome obstacles to implementation, and construct a detailed plan for implementation of solutions. Applications to management of business and other operations. Offered Irregularly.

Prerequisites: (May be taken concurrently: [BA 6025 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7620 Global Supply Chain Management Cr. 3

Introduction to global supply chain management, integrating materials management and physical distribution through the investigation of transportation, inventory, handling and storage, acquisition, order processing and facility location subsystems. Offered Fall.

Prerequisites: ([BA 6025 with a minimum grade of C] OR [BA 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7650 Strategic Procurement Cr. 3

Creation of competitive advantage with superior procurement management. Topics include: negotiating, relationship to the supply chain, quality issues, supplier selection and management, quantity and delivery, and price determination. Strategic, ethical, legal and international issues. Offered Winter.

Prerequisites: ([BA 6025 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7670 Special Topics in Supply Chain Management Cr. 3

Topics range from automotive supply chain management to international supply chain management fields and countries. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

GSC 7680 Manufacturing Planning and Control Cr. 3

Covers concepts for management of production resources in manufacturing organizations. Topics covered include demand management, sales & operations planning, master production scheduling, material requirement planning, capacity planning & management and production activity control. Emerging concepts in the discipline will also be discussed. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7890 Internship in Global Supply Chain Cr. 3

Student works a minimum 160 hours for fifteen weeks in an entry-level management position in global supply chain. Offered Every Term.

Prerequisites: ([GSC 7620 with a minimum grade of C] OR [GSC 7650 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

GSC 7910 Managing Automotive Supply Chains Sustainability Cr. 3

Covers concepts for sustainable management of supply chains taking a holistic view of the interaction between firms, environment and society. Topics covered include: supplier management for sustainability, measurement of environmental and social impact, Life Cycle Analysis (LCA), conflict minerals reporting, automotive industry guiding principles for sustainability, lean and green interface, product design for sustainability, recycling, reusing, and reverse logistics. Emerging concepts in the discipline will also be discussed. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7920 Supply Chain Process Analysis and Costing Cr. 3

Develops understanding about manufacturing processes in a wide range of products. The class will also help develop skills for cost estimating and managing sourcing in manufacturing environments. Topic covered include, how to conduct supplier site visits, viewing sales pitches, learn different types of manufacturing processes for metals, plastic and electronics and how to estimate their costs. Travel in the Detroit area will be required for the class. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7930 Managing Risk in Automotive Supply Chains Cr. 3

Explores the area of risk management spanning aspects of strategic, operating, compliance and financial risks in automotive supply chains. Topics discussed include: risk identification, assessment and response, risk analysis tools (e.g. Process FEMA), risk mitigation, risk recovery and evaluation of control alternatives, crisis management and business continuity planning. Emphasis is placed on managing risk in internal operations as well as the supply network. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7940 Buyer Supplier Relationships in the Auto Industry Cr. 3

Provides a study of issues in managing supplier relationships in the automotive. Topics such as supplier development, supplier performance assessment, monitoring and improvement, and OEM-supplier relationships will be discussed along with emerging trends in the industry. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7950 Auto Industry SCM Capstone Cr. 3

Provides a study of issues in managing automotive supply chains such as: supply chain strategy, managing global manufacturing networks, logistics and trade management in auto networks, make-buy decisions, total cost of ownership, global automotive component sourcing and logistics, managing quality and risk, etc. Case situations of real companies facing these issues will be analyzed. Offered Winter.

Prerequisite: GSC 7620 with a minimum grade of C and GSC 7650 with a minimum grade of C and GSC 7680 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7960 Lean Six Sigma Cr. 3

All organizations strive to improve efficiency and reduce waste, i.e. become lean enterprises. This course provides students with the core concepts related to managing lean organizations and implementing six sigma. Topics covered include, lean principles, process capability, value stream mapping, process improvement, and six sigma implementation. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7991 Principles of Quality Management Cr. 3

Introduction to philosophies of quality management and quality certification standards such as ISO 9000. System analysis, business process design, leadership, benchmarking, quality standards, performance standards, customer focus. Offered Spring/Summer.

Prerequisites: ((BA 6025 with a minimum grade of C) AND ((BA 6090 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7992 Methods of Quality Management Cr. 3

Selection, implementation and applications of the most commonly-used quality methods: statistical process control, design of experiments, process analysis, error proofing, decision analysis, and response surface methods. Offered Fall, Winter.

Prerequisites: ([GSC 7991 with a minimum grade of C] OR [ISM 7991 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

GSC 7995 Directed Study in Global Supply Chain Cr. 1-3

Advanced independent readings and research under supervision of a graduate faculty member, in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ([GSC 7620 with a minimum grade of C] OR [GSC 7650 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

GSW - GENDER SEXUALITY AND WOMEN'S STUDIES

GSW 2500 Humanities Perspectives on Gender, Sexuality, and Women Cr. 3

Questions surrounding gender and sexuality, focusing on the ways in which they have been constructed and represented in different historical periods and geographical location through literature, film, visual objects, the media, and other texts. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 2600 History of Women, Gender and Sexuality in the Modern World Cr. 3

Examination of change over time; using different historical approaches to try to account for change, from a comparative perspective, to the experiences of women and constructions of gender and sexual identity. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 2605

GSW 2700 Social Science Perspectives on Gender, Sexuality, and Women Cr. 3

Understanding the ways in which political, social and cultural institutions shape gender, sexuality, and women's experiences within a local and global context. Offered Fall, Winter.

GSW 3520 Women and Gender in Middle East History Cr. 3

Women's role in Middle East history; impact of religion, culture, social and economic change on construction of gender in the Middle East. Offered Yearly.

Equivalent: NE 3520

GSW 3750 Diversity in Criminal Justice Cr. 4

Critical examination of gender, race, class, and ethnicity issues in criminal justice; impact on defendants, inmates, victims, and criminal justice personnel; relation to policy issues. Offered Fall, Winter.

Equivalent: CRJ 3750

GSW 3990 Directed Studies Cr. 1-3

Individually-designed research projects, developed with a supervising professor and approved by program director. Offered Every Term.

GSW 5030 Topics in Women's Studies Cr. 3

Thematic, critical or generic study of women and literature. Topics to be announced in Schedule of Classes. Offered Yearly.

Prerequisites: ((ENG 1000 with a minimum grade of C))

Equivalent: ENG 5030

Repeatable for 9 Credits

GSW 5035 Topics in Gender and Sexuality Studies Cr. 3

Examination of issues of sexuality and gender as mediated through literary and cultural study. Attention to critical theory as well as various literary and cultural forms. Offered Yearly.

Prerequisites: ((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100) OR ((BA) Competencies Waiver with a test score minimum of 100))

Equivalent: ENG 5035

Repeatable for 9 Credits

GSW 5110 Black Women in America Cr. 3

Social, cultural, artistic and economic development of Black women in America; topics include: racism, sexism, marriage, motherhood, feminism, and the welfare system. Offered Yearly.

Equivalent: AFS 5110

GSW 5200 Feminist, Gender, and Queer Theory Cr. 3

Overview of feminist, gender and queer theory, focusing on the three "waves" and the social, political, and cultural construction of femininities, masculinities, and sexualities. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((GSW 2500 with a minimum grade of D-) OR [GSW 2600 with a minimum grade of D-] OR [GSW 2700 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5300 Topics in LGBTQ Studies Cr. 3

Focused examinations of LGBTQ studies from different disciplinary perspectives, including but not limited to literary, historical, and media studies; social sciences; and philosophy. Topics to be announced in Schedule of Classes. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((GSW 2500 with a minimum grade of D-) OR [GSW 2600 with a minimum grade of D-] OR [GSW 2700 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5360 Gender and Communication Cr. 3

Analysis of gender communication issues within interpersonal, group, organizational, intercultural, public, and mass mediated contexts. Offered for undergraduate credit only. Offered Yearly.

Prerequisite: COM 2000 with a minimum grade of D-

Equivalent: COM 5360

GSW 5400 Topics in Gender and Women's Studies Cr. 3

Focused examination of gender and women from different disciplinary perspectives, including but not limited to literary, historical, and media studies; social sciences; and philosophy. Topics to be announced in schedule of classes. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((GSW 2500 with a minimum grade of D-) OR [GSW 2600 with a minimum grade of D-] OR [GSW 2700 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5500 Internship in Gender, Sexuality, and Women's Studies Cr. 3

Internship in a public or private organization related to gender, sexuality, or women's studies. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5875 Gender in Modern East Asia Cr. 4

History of gender in China, Japan, and Korea, with topics to include Confucianism, the state's role in gender construction, nationalism, imperialism, marriage, family, labor, sexuality, and feminism. Offered Biannually.

Equivalent: ASN 5875, HIS 5875

GSW 5990 Senior Project Seminar Cr. 4

Scholarly research project or internship combined with scholarship, resulting in substantial paper. Students meet with instructor several times during semester. Offered Yearly.

Prerequisite: GSW 5200

GSW 7020 History of Feminism Cr. 4

An upper division - graduate level course on the main ideological, intellectual, and political sources and developments in the history of feminism in the United States. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: HIS 7251

GSW 7200 Feminist, Gender, and Queer Theory Cr. 3

Overview of feminist, gender and queer theory, focusing on the three "waves" and the social, political, and cultural construction of femininities, masculinities, and sexualities. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

GSW 8150 Seminar in the History of Gender, Women and Sexuality Cr. 3
Research seminar in the History of Gender, Women, and Sexuality. Topics vary by Term. Offered Yearly.
Prerequisites: ([HIS 7830 with a minimum grade of C])
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: HIS 8150
Repeatable for 6 Credits

HE- HEALTH EDUCATION

HE 1010 Foundations of Health and Health Promotion Cr. 3

Foundations of the community health education profession and practice, including history, settings, organizations, ethics and employment. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

HE 2310 Dynamics of Personal Health Cr. 3

Critical health issues relevant to both traditional and non-traditional college students today. In-depth study of varied health issues and applications to personal, family and community needs. Offered Every Term.

HE 2320 Advancing Policy in Community Health Education Cr. 3

Provides an overview of the community health policy process, advocacy and social, political and environmental issues affecting urban populations. Offered Biannually.

HE 3300 Health of the School Child Cr. 3

Health status and problems of school-age children. Role of teacher and schools in promoting healthy behavior. Emphasis on impact of institutional forces (e.g., family, media) on development of children's health beliefs and behavior. Offered Every Term.

HE 3330 Methods in Teaching Health Cr. 3-4

Principles, curriculum development, and techniques in teaching health at elementary and secondary school levels. Offered Fall.

Prerequisites: ([HE 3300 with a minimum grade of D-]) AND ([HE 3440 with a minimum grade of D-]) AND ([HE 4340 with a minimum grade of D-]) AND ([HE 5440 with a minimum grade of D-]) AND ([HEA 2310 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the College of Education.

HE 3344 Methods and Materials in Community Health Education Cr. 3

Frameworks, practical applications and mechanics of conducting health interventions in community settings. Offered Biannually.

Prerequisites: ([HE 1010 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

HE 3440 Nutrition and Health Education Cr. 3

Relationships between dietary intake and health status in various populations. Role and responsibilities of health educators in nutrition programs. Concepts from health psychology applied to school and community approaches. Offered Fall, Winter.

Prerequisites: ([HEA 2310 with a minimum grade of D-]) OR [HE 2310 with a minimum grade of D-] OR [HE 3300 with a minimum grade of D-]

HE 3500 Human Disease Cr. 3

Body system impairments from disease, injury or congenital abnormalities that relate to morbidity and mortality in the U.S. Signs, symptoms, causes, prevention, and treatment. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Health Education, Health Education Honors, Kinesiology or Kinesiology Honors.

HE 3990 Individual Problems in Health Cr. 1-3

Solving a specific personal health problem or studying a specific community health problem under the guidance of divisional staff. Offered Every Term.

Prerequisite: HE 2310 with a minimum grade of C or HE 2320 with a minimum grade of C

Repeatable for 3 Credits

HE 4010 Foundations of Community Health Program Planning Cr. 3

Introduction and practical application of health promotion program planning, including: developing a need assessment, recruiting community support, writing program goals and objectives, developing a program plan, identifying existing interventions and/or designing new intervention activities to address program objectives, using theory to enhance effective programming, program implementation, budgeting and measurement. Offered Fall.

Prerequisites: ([HE 5220 with a minimum grade of D-])

HE 4340 Family and Reproductive Health Cr. 3

Program planning, curriculum development and classroom teaching strategies in the areas of human sexuality, reproductive health and venereal disease, family planning and family health. Course will satisfy Michigan Department of Education requirements for teaching in these areas. Offered Fall.

HE 4901 Health Education Internship I Cr. 3

Undergraduate community health students apply their knowledge and skills in a supervised situation; includes both observation and participation with the health education professionals at the internship site. Offered Every Term.

Prerequisites: ([HE 2310 with a minimum grade of D-]) AND ([HE 1010 with a minimum grade of D-]) AND ([HE 3344 with a minimum grade of D-])

Course Material Fees: \$16

HE 4902 Health Education Internship II Cr. 4-9

Second of two internships; students contribute expertise and enthusiasm to their host agency and demonstrate their ability to perform the duties of a professional health educator. Offered Every Term.

Prerequisites: (May be taken concurrently: [HE 4901 with a minimum grade of D-]) AND ([HE 4010 with a minimum grade of D-]) AND ([HE 5220 with a minimum grade of D-]) AND ([HE 5993 with a minimum grade of D-]) OR [KHS 5522 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$16

Repeatable for 9 Credits

HE 5220 Health Behavior Change Cr. 3

Principles of behavior modification; theories of health behavior and program planning as they relate to health promotion and wellness. Offered Biannually.

Prerequisites: (((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

HE 5440 Mental Health and Substance Abuse Cr. 3

Identification, treatment, and prevention of mental health/substance abuse problems. How school-age children and their families are affected by these problems; role of the teacher. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

HE 5522 Health Psychology Cr. 3

Foundations of health, research methods, biological foundations of health/illness, stress, nutrition, obesity, eating disorders, substance abuse and health, cardiovascular disease, diabetes and health, exercise and cancer; HIV, AIDS, and health; pain management and patient behavior, complementary and alternative medicine, health psychology across the life span. Offered Fall.

Prerequisites: ([PSY 1010])

HE 5620 Performance Based Assessment in Health Education Cr. 3

Assessment and evaluative techniques applied to health education, including test construction and performance-based assessment. Designed to meet assessment and evaluative competencies required for entry-level health teachers in Michigan. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

HE 5780 Directed Student Teaching Cr. 10

Secondary school teaching experience. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

HE 5993 Writing Intensive Course in Health Education Cr. 0

Disciplined writing assignments under direction of a faculty member. Satisfies University General Education Writing Intensive Course in the Major requirement. Offered Fall.

Prerequisites: ([PSY 1010] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Corequisite: HE 5522

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Health Education or Health Education Honors.

HE 6350 Health Education and the Nation's Health Cr. 3

Introductory course for graduate health program. Current national health status; contributory factors including: behaviors linked to disease, policies, problems in the health care system and delivery of health care. Offered Biannually.

HE 6420 Introduction to Health Education Program Design Cr. 3

Overview of health education program process in all practice settings. Introduction to needs assessment, objective writing, staff training, and evaluation in health education. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Health Education; enrollment is limited to Graduate level students.

HE 6430 School Health Curriculum Cr. 3

Principles and application of school health programming. Philosophy and foundations of health education, conducting a needs assessment and design instruction based on the assessment, implementing and evaluating the instruction, implementation of skills in a secondary classroom, assessment of the process. Satisfies General Education program Writing Intensive requirement for health teaching majors. Offered Winter.

Prerequisite: HE 3330 with a minimum grade of D- or HE 6500 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the College of Education.

HE 6500 Comprehensive School Health Education Cr. 3

Overview of comprehensive school health education. Study of major comprehensive health curricula with intensive training in the Michigan Model. This class leads to certification to teach the Michigan Model in public schools. Offered Fall.

Prerequisite: HEA 2310 with a minimum grade of D- and HE 3300 with a minimum grade of D- and HE 3440 with a minimum grade of D- and HE 4340 with a minimum grade of D- and HE 5440 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the College of Education.

HE 6501 Measurement and Evaluation in Community Health Education Cr. 3

Frameworks, principles, models and strategies for evaluating health education programs. Offered Biannually.

Prerequisites: ([HE 6420 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

HE 6530 Principles and Practice of Health Education and Health Promotion Cr. 3

Principles, resources and practical application of community health education in various settings, with emphasis on the role of the community health education specialist. Offered Biannually.

HE 6550 Teaching Methods and Techniques in Health Education Cr. 3

Strategies employed in dissemination of health information in the community and school system. Integration of cognitive skills, behavior change theory, and materials used to produce effective health instruction. Offered Biannually.

HE 7310 Psychology of Learning Across Development Cr. 3

A selection of human development and learning theories and concepts emphasizing application to various professional contexts, e.g., community, health, business, school, and other organizational settings; focus is on late adolescence (ages 18-22) and adulthood. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: EDP 7310

HEB - HEBREW

HEB 1010 Elementary Hebrew I Cr. 4

Reading, writing, and speaking. Emphasis on Modern Hebrew. Offered Fall.

Course Material Fees: \$5

HEB 1020 Elementary Hebrew II Cr. 4

Continuation of HEB 1010. Offered Winter.

Prerequisites: ([HEB 1010 with a minimum grade of D-])

Course Material Fees: \$5

HEB 2010 Intermediate Hebrew I Cr. 4

Reading of additional cultural texts. Offered Fall.

Prerequisites: ([HEB 1020 with a minimum grade of D-])

Course Material Fees: \$5

HEB 2020 Intermediate Hebrew II Cr. 4

Reading, writing, and conversational texts. Offered Winter.

Prerequisites: ([HEB 2010 with a minimum grade of D-])

Course Material Fees: \$5

HEB 3240 Survey of Modern Hebrew Literature in English Translation Cr. 3

Modern Hebrew literature from the end of the nineteenth century to the present; includes major authors from the European, pre-state and Israeli periods. Texts are in English. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: NE 3240

HEB 3990 Directed Study Cr. 1-4

Assigned readings of intermediate and advanced texts. Offered Every Term.

Repeatable for 4 Credits

HEB 5990 Directed Study Cr. 3-6

Assigned readings of advanced texts; guided texts. Offered Every Term.

Repeatable for 9 Credits

HIS - HISTORY

HIS 1000 World Civilization to 1500 Cr. 4

Survey of ancient and medieval history from the Neolithic Revolution to 1500. Offered Every Term.

HIS 1050 American Civilization Since World War II Cr. 4

Recent American ideas, institutions, and social movements within the broad context of global change and conflicts. Offered Biannually.

HIS 1300 Europe and the World: 1500-1945 Cr. 4

The rise of the modern West and the response of the non-West from the age of exploration to the end of World War II. The foundations of the contemporary world. Offered Every Term.

HIS 1400 The World Since 1945 Cr. 4

Selected topics in world history since 1945, including: impact of World War II on Europe and European empires; bipolar division of the world between the United States and the Soviet Union; the international order and relations between the industrial nations (First World) and the developing nations (Third World). Offered Every Term.

HIS 1600 African Civilizations to 1800 Cr. 3-4

Africa from ancient Egypt to the Atlantic slave trade. Emphasis on state-building; regional and international commercial networks and their role in economic, political, and socio-cultural change. Offered Every Term.

HIS 1610 African Civilizations Since 1800 Cr. 3-4

The origins of contemporary Africa, nineteenth century state-building, spread of Islamic religion, establishment of European empires, independence struggles, and problems of independence. Offered Every Term.

HIS 1700 History of Pre-Modern East Asia Cr. 3

From antiquity to the late seventeenth century; emphasis on political, economic, social, and cultural developments in China, Japan, and Korea. Offered Irregularly.

Equivalent: ASN 1700

HIS 1710 History of Modern East Asia Cr. 3

From beginning of nineteenth century to the present; emphasis on political, social and economic developments in China, Japan and Korea. Offered Irregularly.

Equivalent: ASN 1710

HIS 1800 The Age of Islamic Empires: 600-1600 Cr. 3

Historical evolution of the Islamic world from birth of Islam to height of Ottoman Empire. Islamic history and civilization in a world-historical context; developments indigenous to specific regions, such as Islamic Spain. Offered Yearly.

Equivalent: NE 2030

HIS 1810 The Modern Middle East Cr. 3

Survey of Middle East history in modern era, focusing on the nineteenth and twentieth centuries. Ottoman history from 1600: impact of European imperialism and nationalist movements, resulting in development of modern state systems, regional/national conflicts, and Islamic response to modernization. Offered Yearly.

Equivalent: NE 2040

HIS 1900 History of Colonial Latin America Cr. 3

The Spanish and Portuguese conquests in the Americas; the multi-racial and class social structures they established as colonies, and the movements for independence, 1492-1822. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: LAS 1900

HIS 1910 Latin America from Independence to the Present Cr. 3

Latin America from early nineteenth century to the 1980s. Major themes include: 1) colonial pasts and political independence; 2) state formation, and the construction of identities at local and national levels; 3) elite and popular relations, including cases of rebellion, revolution, and state repression; 4) forms of capitalist development and transformations in class relations, ideologies of economic development, and linkages to the United States. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: LAS 1910

HIS 1995 Society and the Economic Transition Cr. 3

Historical survey of the interaction between technological change, socio-economic systems, and culture. Multi-disciplinary studies of hunting, agrarian, and industrial societies. Offered Fall.

HIS 2000 Introduction to Urban Studies Cr. 4

Urban phenomena, past and present, quality and nature of urban life, major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.

Equivalent: GPH 2000, PS 2000, SOC 2500, US 2000

HIS 2040 United States to 1877 Cr. 3-4

American experience with colonialism, revolution and nation building. Offered Every Term.

HIS 2050 United States Since 1877 Cr. 3-4

Industrialization, urbanization, and emergence of the United States as a world power. Offered Every Term.

HIS 2240 History of Michigan Cr. 3-4

Social and economic development of the state, from French explorations to the present. Offered Biannually.

HIS 2350 Black Detroit Cr. 3

Explores the historical, cultural and structural aspects of the Black urban experience in Detroit from the late 19th Century to the present, including the role that racism, urbanization and suburbanization have played in shaping racial, spatial and economic inequality in the Detroit Metropolitan area. Utilizes an interdisciplinary approach: to interrogate the social and cultural history of Black Detroit, to examine the various forms of Black social movement activism used by Black Detroiters in the 20th Century, and to analyze ways the shifting economic and political currents shaped, and reshaped racism, class, space, and resistance in the Detroit metropolitan area. Offered Fall, Winter.

Equivalent: AFS 2350, US 2350

HIS 2430 History of Latino/as in the United States Cr. 3

Historical development of people of Hispanic descent in the United States from the early nineteenth century to the present. Cultural conflict, and interaction of political, social, and economic forces. Offered Fall.

Equivalent: LAS 2430

HIS 2440 History of Mexico Cr. 3

Historical development of Mexico and the Mexican people from the Spanish conquest to the present. Interaction of political, social, economic and cultural influences. Offered Fall.

Equivalent: LAS 2410

HIS 2500 Introduction to Peace and Conflict Studies Cr. 3

Open to all undergraduate students. Introduction to the peace and conflict studies co-major. Survey, ranging from biology and conflict among animals to disputes involving the individual, the family, the neighborhood and region, the nation and global or international community. Definitions and approaches to peace. (Some sections linked to Peace and Justice Learning Community.) Offered Yearly.

Equivalent: PCS 2000, PS 2820

HIS 2510 Science, Technology, and War Cr. 4

Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.

Equivalent: PCS 2020, PHY 2020, PS 2440

HIS 2520 Topics in Peace and Conflict Studies Cr. 1-4

Special topics relating to peace and conflict studies. Offered Every Term.

Equivalent: PCS 2010, PS 2830

Repeatable for 12 Credits

HIS 2530 The Study of Non-Violence Cr. 3

Intellectual and social roots of non-violence and the practice of non-violence in different people's lifestyles. Offered Every Term.

Equivalent: PCS 2050, PS 2550, SOC 2050

HIS 2600 Latin Amer To 1810 Cr. 3**HIS 2605 History of Women, Gender and Sexuality in the Modern World Cr. 3**

Examination of change over time, using different historical approaches to try to account for change as specifically applicable from a comparative perspective to the experiences of women and constructions of gender and sexual identity. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: GSW 2600

HIS 2700 Introduction to Canadian Studies Cr. 3

Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.

Equivalent: ENG 2670, GPH 2700, PS 2700

HIS 2800 Introduction to Global Issues and Institutions Cr. 3

Provides a broad overview of some of the big and controversial questions facing our increasingly globalized world today and introduces some of the tools we have to confront these issues. Topics include the conflict and security threats, protection of human rights, global warming, and resource management. Offered Fall, Winter.

Equivalent: GLS 2800

HIS 3000 The Historian's Craft Cr. 3

Provides an introduction to the discipline of history and the methodological skills that historians need to explore their areas of interest. Offered Every Term.

HIS 3010 Jewish History from the Bible to 1492 Cr. 4

Survey the history of the Jews from biblical antiquity until the Expulsion from Spain. Special attention will be paid to the world of the Hebrew Bible, the Jewish encounter with Hellenistic Civilization, the creation and triumph of Rabbinic Judaism, and Jewish life under Christian and Muslim Rule. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: NE 3010

HIS 3011 Jewish History since 1492 Cr. 3

Major developments in Jewish History since the expulsion of the Jews from Spain in 1492. Specific topics include the impact of the Spanish expulsion, the Jews of the Ottoman Empire, Jews and the Italian Renaissance, Martin Luther and the Jews, the golden age of Polish Jewry, 1648, Shabbetai Tzvi, Hassidic Judaism, the Court Jews and Age of Absolutism, the impact of the Enlightenment, the French Revolution and the Age of Emancipation, the twin birth of Reform and Orthodox Judaism, Anti-Semitism and the Dreyfus Affair, Zionism and other forms of Jewish Nationalism, Hitler and the Final Solution, the creation of the State of Israel, and Jews in Post-World War II America, Israel, Europe, and the Soviet Union. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: NE 3011

HIS 3015 History of Judaism and Jewish Thought Cr. 4

Development of Judaism and Jewish thought from early beginnings in the Hebrew Bible to contemporary American Jewish religious developments. Offered Fall.

Equivalent: NE 3015

HIS 3140 African American History I: 1400-1865 Cr. 3-4

African origins of the African American; transition from freedom to slavery; status of the African American under slavery. Offered Fall.

Equivalent: AFS 3140

HIS 3150 African American History II: Reconstruction to 1968 Cr. 3-4

African American history from Reconstruction through the Civil Rights Movement. Offered Winter.

Equivalent: AFS 3150

HIS 3155 African American History III: from 1968 to the Present Cr. 3-4

History of African Americans' struggle against persistent and stubborn racism, efforts to achieve full citizenship, and legal and economic justice after 1968. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: AFS 3155

HIS 3160 Black Urban History Cr. 4

Historical experience of African Americans in urban areas; impact of their communities on urban development from 1860 to contemporary times. Offered Fall, Winter.

Equivalent: AFS 3160

HIS 3170 Ethnicity and Race in American Life Cr. 3-4

Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the "Other"? What is an "American"? Offered Biannually.

Equivalent: AFS 3170

HIS 3180 Black Social Movements Cr. 4

Survey of mass or popular Black movements with emphasis on their political and cultural impact, historical continuity and organization. Offered Yearly.

Prerequisites: ([AFS 2210 with a minimum grade of D-])

Equivalent: AFS 3180

HIS 3230 The Civil Rights Movement Cr. 3

Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: AFS 3230

HIS 3240 Detroit Politics: Continuity and Change in City and Suburbs Cr. 4

Detroit-area political systems and processes, historical, economic, and social influences on local politics. Traditions, changes, and future challenges in Detroit and metropolitan area. Offered Biannually.

Equivalent: PS 3250

HIS 3250 The Family in History Cr. 3-4

Comparative survey emphasizing the transformation from traditional patterns of family life to family and kin in modern industrial society; students research their own family histories. Offered Biannually.

HIS 3320 Twentieth Century Middle East Cr. 3

The contemporary Middle East; emphasis on social and economic development. Investigation of issues that identify the region, such as oil, gender issues, fundamentalism, and regional conflicts. Offered Yearly.

Equivalent: NE 3040

HIS 3330 Civilizations of the Nile Valley: Egypt and Nubia Cr. 4

From Neolithic era to the seventh century of our era. Offered Biannually.

HIS 3345 Christianity in Africa Cr. 4

This course explores the history of missionization on the African continent; its role in furthering the colonial project and the changes it brought for African societies; and the role of Africans in shaping Christian practice. Offered Fall.

HIS 3360 Black Workers in American History Cr. 4

Survey course. Slave and free workers during antebellum period; skill trades, sharecropping, menial labor, and coal mining during Reconstruction; labor struggles and job discrimination in the twentieth century. Offered Fall, Winter.

Equivalent: AFS 3360

HIS 3440 American Medicine in the Twentieth Century Cr. 3

Major historical benchmarks in the making of the medical system in the U.S., including developments in medicine and medical knowledge, as well as social and political factors that influenced their reception and implementation. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: SOC 3440

HIS 3490 History of Russia and Eurasia to 1917 Cr. 4

Interaction of cultures, politics and societies of Russia and Eurasia to the Russian Revolution of 1917. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

HIS 3585 Science, Technology, and Society Cr. 3

Introduction to the field of Science and Technology Studies; how conflicts about science and technology are generated and resolved; how broader societal institutions help shape, and are shaped by, science and technology. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

HIS 3650 History of Detroit Cr. 3

History of Detroit from European contact to the present, with emphasis on the late-19th and 20th centuries. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: US 3650

HIS 3840 China & the World Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: ASN 3840

HIS 3991 Directed Study: Salford - WSU Exchange Cr. 3-9

Directed study at University of Salford, England. Offered Fall, Winter.

Repeatable for 9 Credits

HIS 3995 Special Topics in History Cr. 1-4

Specialized and topical studies in historical events, personalities and themes. Topics to be announced in Schedule of Classes . Offered Every Term.

Repeatable for 8 Credits

HIS 3996 Topics in African History Cr. 1-4

Topics to be announced in Schedule of Classes . Offered Irregularly.

Repeatable for 8 Credits

HIS 3998 Topics in American History Cr. 1-4

Topics to be announced in Schedule of Classes . Offered Irregularly.

Repeatable for 8 Credits

HIS 4990 Directed Study Cr. 1-6

Offered Every Term.

HIS 4997 Internship in Public History Cr. 3

Professional experience in public history under the supervision of a public history practitioner and a departmental advisor. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in History or History Honors.

HIS 5010 Colonial North America Cr. 4

European expansion to North America, interaction among European, Native American, and African peoples, and imperial competition over the New World through the Seven Years' War. Offered Irregularly.

HIS 5020 Revolutionary America Cr. 4

Social, political, and cultural background to America's independence movement; development of American national identity, social relations, and early politics through the election of 1800. Offered Irregularly.

HIS 5030 Early American Republic: 1789-1850 Cr. 4

Emphasis on the political culture with special attention to the founding of the American Republic, the emergence of a modern economy, slavery, social reform, and the sectional crisis. Offered Biannually.

HIS 5040 Civil War and Reconstruction: 1850-1877 Cr. 3

Emphasis on the coming of the Civil War, the war's impact on American society, and the reconstruction of the United States after the war. Offered Biannually.

HIS 5070 Contemporary American History: 1945 to the Present Cr. 4

Social, political, intellectual, economic, diplomatic, and cultural trends in the United States since World War II. Offered Yearly.

HIS 5110 Class, Race, and Politics in America Cr. 3

Historical and analytic investigation into the role of class and race in American politics. Offered Irregularly.

Equivalent: AFS 6100, PS 6050, SOC 7330, UP 7030

HIS 5130 American Foreign Relations Since 1933 Cr. 4

United States involvement in the international system from the twenties to the present. Emphasis on World War II to Vietnam and the role of the United States in the Cold War and the Third World. Offered Biannually.

HIS 5160 American Legal Culture to 1857 Cr. 4

The emergence of distinctively Anglo-American legal cultures in the Atlantic basin and then in North America, from early exploration and settlement until the early stages of Civil War. Special attention is paid to law's ongoing relationship to state making, the shifting terrain of citizenship, the emergence of capitalism, and the construction within society of racial, gendered, and class distinctions. Not a prerequisite for HIS 5170. Offered Biannually.

HIS 5170 American Legal Culture after 1857 Cr. 4

The post-Civil War development of legal-cultural constructs as Americans industrialized, modernized, globalized, and centralized public life. Special attention will be paid to law's ongoing relationship to state-making, the shifting terrain of citizenship, the emergence of the modern welfare state, economic regulation and de-regulation, and the construction of racial, gendered, and class distinctions. Offered Biannually.

HIS 5200 Women, Gender, and Sexuality in US History Cr. 3

the history of women in the United States and the role of gender and sexuality in shaping women/qs and men/qs experience and identity. Offered Biannually.

HIS 5210 The Peopling of Modern America, 1790-1914: A History of Immigration Cr. 3-4

Causes and consequences of immigration; immigrants and labor; immigrant culture and institutions; relationship between immigration, industrialization, and urbanization; racism, nativism, and immigration restriction. Offered Biannually.

HIS 5220 The Changing Shape of Ethnic America: World War I to the Present Cr. 3-4

Assimilation, cultural pluralism and the "melting pot"; persistence of ethnic cultures; class and ethnicity; internal migrations; America's recent immigrants; race and ethnic relations in the city; the "new ethnicity." Offered Biannually.

HIS 5230 History Of South Cr. 3

Equivalent: HIS 7230

HIS 5231 The Conquest in Latin America Cr. 3

Varying perspectives on European conquests in Latin America. Offered Irregularly.

Equivalent: LAS 5231

HIS 5234 Race in Colonial Latin America Cr. 3

Use of race to organize colonial society in Latin America. Offered Irregularly.

Equivalent: LAS 5234

HIS 5235 The Civil Rights Movement Cr. 3

Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.

Equivalent: AFS 5230

HIS 5239 Latin American Migration to the United States Cr. 3

Causes, dynamics, and impact of Latin American migration to the United States. Offered Irregularly.

Equivalent: LAS 5239

HIS 5240 Michigan History in Perspective Cr. 3

Social, economic, environmental, and political history of Michigan from prehistory to the present. Offered Winter.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

HIS 5251 History of Feminism Cr. 4

An upper-division/graduate-level course on the main ideological, intellectual, and political sources and developments in the history of feminism in the United States. Offered Biannually.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

HIS 5261 African American History and Memory Cr. 3

An examination of the ways different groups and institutions remember and forget African American history. Each term the course will have a specific focus that will be advertised in advance. Offered Fall.

Equivalent: AFS 5261

Repeatable for 6 Credits

HIS 5290 American Labor History Cr. 4

Analysis of American workers and unions in the nineteenth and twentieth centuries. Offered Biannually.

Equivalent: ECO 5490

HIS 5300 History of American Capitalism Cr. 4

History and development of American capitalism from the colonial period through the 2008 financial crisis. Offered Biannually.

HIS 5330 History of Ancient Greece Cr. 3

Ancient Greek culture, emphasizing political events, social and economic institutions, and cultural achievements. Offered Biannually.

HIS 5335 History of the Hellenistic Age Cr. 3

The History of Greece and the Eastern Mediterranean world from Alexander the Great to the Roman conquest: 323 B.C. to 30 B.C. Offered Biannually.

HIS 5340 History of Ancient Rome Cr. 3

Institutional and cultural development. Offered Biannually.

Equivalent: HIS 7340

HIS 5345 Rome and the Barbarians Cr. 3

The relationship between ancient Rome and the pre-state societies that existed beyond its frontiers from about 300 B.C.E to about 500 C.E. Offered Biannually.

HIS 5360 The Early Middle Ages: 300-1000 Cr. 3

Interaction of Roman, Christian, and barbarian elements in the emergence of Europe as a cultural entity between the fourth and tenth centuries. Offered Biannually.

HIS 5370 The High Middle Ages: 1000-1300 Cr. 3

Economic, social, and cultural developments that transformed Western European civilization during the eleventh, twelfth and thirteenth centuries. Offered Biannually.

HIS 5385 History of Christianity to the Reformation Cr. 3

Survey of Christianity from Jesus to the Reformation. Balanced coverage of Christianity in Europe, Asia, and Africa. Offered Yearly.

HIS 5386 The History of Christianity from the Reformation to the Present Cr. 3

Examines the Reformation, the export of Christianity to the New World, Africa, and Asia; and the challenges posed to Christian cultural hegemony in the west by science and modernism. Offered Irregularly.

HIS 5395 Social History of the Roman Empire Cr. 3-4

Social institutions of the Roman empire, including the family, patronage, slavery, economy, and religion. Offered Yearly.

HIS 5400 Early Modern Europe Cr. 4

Development of modern centralized state; social and cultural changes, including the Enlightenment. Offered Biannually.

HIS 5407 The Scientific Revolution Cr. 3

Rise of modern science; major changes in study of astronomy, medicine, physics, mathematics, and other sciences from 1500 to 1700. Offered Biannually.

HIS 5410 The French Revolution and Napoleon Cr. 4

The dramatic changes of the late eighteenth and early nineteenth century that altered the course of French and European development and laid the basis for political modernization. Offered Yearly.

HIS 5425 American Environmental History Cr. 3

From the pre-Columbian period to the present day; emphasis on twentieth-century urban history, using Detroit as a model for the changing human/environment relationship over the past three centuries. Offered for undergraduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

HIS 5440 Twentieth Century Europe Cr. 4

Total war and disillusionment, attempts to restore stability and security, totalitarianism as an answer, more war and reconstruction, a divided Europe, and the search for Europe's place in the world. Offered Biannually.

HIS 5450 Europe, 1918-1939: Mass Politics and Culture in the Age of Hitler, Stalin, and Mussolini Cr. 4

Social and cultural trends in modern European society; ideological struggles of interwar period. Topics include: impact of World War I; development of communism, fascism, Nazism; Freud and the liberal defense; existentialism; postwar disillusionment. Offered Yearly.

HIS 5460 History of the Holocaust Cr. 4

Holocaust as a tragic juncture of general European and Jewish history. Topics include: development of anti-Semitism in Europe and the rise of Nazism; European Jewry in the interwar period; the Third Reich's treatment of the "Jewish Question" in the 1930s; Jewish resistance; fate of the survivors; implications of the Holocaust for contemporary society. Offered Yearly.

HIS 5470 Modern Germany 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. Offered Irregularly.

HIS 5480 Nazi Germany Cr. 3-4

Hitler and Nazi Germany. Topics include: impact of World War I, the Weimar Republic, the growth of the Nazi party, the seizure of power, internal and foreign policies, and the war experience. Offered Biannually.

Equivalent: HIS 7480

HIS 5490 His: Russia & Eurasia to 1917 Cr. 4

Offered Yearly.

HIS 5495 History of the Russian Revolution Cr. 3-4

The Russian Revolution, including fall of tsarist Russia, reign of the Provisional Government, and establishment of power by the Communist Party. Offered Yearly.

HIS 5500 The Soviet Union Cr. 4

Bolshevik seizure of power, collectivization of agriculture and forced-draft industrialization, Nazi German invasion, Khrushchev and deStalinization, predominance of the new middle class, nationality problems, and problems of detente. Offered Yearly.

HIS 5530 History of World War I and II: A Social and Political History of Two World Wars Cr. 4

Provides an in-depth and truly global look at the history of both wars. Topics will include the political events leading up to the wars and their political aftermath, as well as their short- and long-term effects on societies. Offered Biannually.

Equivalent: HIS 7530

HIS 5535 History of Terrorism Cr. 3

Examines terrorism from its beginnings until its most recent manifestations. It starts with a critical examination of the term terrorism itself, but the main focus of this course will not be on discussions about the concept and its various meanings, but rather on high profile instances of what is commonly referred to as terrorism. The course will take a transnational approach and engage in comparative history. Offered Biannually.

HIS 5540 World Environmental History since 1900 Cr. 4

This course examines the transformation of the relationship between human society and the natural environment in global context since 1900. Available for undergraduate credit only. Offered Fall.

Equivalent: GLS 5540

HIS 5550 Britain 1485-1714 Cr. 4

Impact of religious, political and social change on British people during sixteenth, seventeenth, and early eighteenth centuries. Offered Irregularly.

HIS 5555 Britain in the Age of Empire Cr. 4

History of Britain and the rise of the British Empire, 1700-1800, focusing on political, economic, intellectual, and social developments. Special emphasis on shifting notions of what it meant to be "British" during the period. Offered Biannually.

HIS 5556 History of Modern Britain Cr. 4

Modern British history from 1815 to the present day: political, economic, intellectual, and social developments, in Britain itself and across the Empire. Offered Biannually.

HIS 5585 Studies in Science, Technology, and Society Cr. 3

Introduction to the field of Science and Technology Studies; how conflicts about science and technology are generated and resolved; how broader societal institutions help shape, and are shaped by, science and technology. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 5660 France Since 1815 Cr. 4

Struggle between old and new political forces, impact of industrialization, search for freedom with order, effect of total war, problems of decolonization and European integration, and cultural transformations. Offered Yearly.

HIS 5665 Global Cities Cr. 3

Social, political, economic, and cultural history of cities around the world, with an emphasis on the 19th and 20th centuries. Offered Irregularly.

HIS 5670 Modern American Cities Cr. 4

History of U.S. cities since World War II. Topics include suburbanization, deindustrialization, gentrification, and globalization. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Equivalent: UP 5670

HIS 5715 Everyday Africa Cr. 4

Moving beyond the conventional narrative; an alternative history based on the everyday lives of individuals and communities, challenging the way we understand Africa's past and present. Offered Fall.

HIS 5725 African Cities Cr. 4

An exploration of the emergence of cities in sub-Saharan Africa and major themes in the history of urban Africa: work, leisure, popular culture, politics, conflict, gender, generation, ethnicity, and race. Offered Winter.

HIS 5825 Readings in History of Modern China Cr. 4

From early 1600s to the present; political, economic, and social changes. Offered Biannually.

Equivalent: ASN 5825

HIS 5855 Pre-Modern Japan Cr. 4

Japanese history from its mythical origins to early nineteenth century; political, economic, social, cultural developments. Offered Biannually.

Equivalent: ASN 5855

HIS 5865 Modern Japan Cr. 4

Japanese history from the early nineteenth century to the present; emphasis on political, economic, and social developments. Offered Yearly.

Equivalent: ASN 5865

HIS 5875 Gender in Modern East Asia Cr. 4

History of gender in China, Japan, and Korea, with topics to include Confucianism, the state's role in gender construction, nationalism, imperialism, marriage, family, labor, sexuality, and feminism. Offered Biannually.

Equivalent: ASN 5875, GSW 5875

HIS 5960 Globalization, Social History and Gender in the Arabian Gulf Cr. 3

Social history of the Arabian Gulf (especially Bahrain, Qatar, and the UAE) in the age of globalization. Contemporary history with special emphasis on gender relations as an index of current social developments in the region. Offered Yearly.

Equivalent: NE 5000

HIS 5991 Directed Study: Salford - WSU Exchange Cr. 3-9

Directed study at University of Salford, England. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

HIS 5993 Writing Intensive Course in History Cr. 0

Must be selected in conjunction with HIS 5996: Junior/Senior Research Seminar. For HIS 5996, students write a research paper of approximately twenty typed pages, including footnotes and a bibliography, and using primary sources. A C or higher on that paper is required to earn a Satisfactory for HIS 5993 and to fulfill the University General Education Writing Intensive requirement for the History major and History Honors major. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major in History or History Honors; enrollment is limited to Undergraduate level students.

HIS 5995 Honors Seminar Cr. 3

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in History Honors; enrollment limited to students in a Bachelor of Arts degree.

HIS 5996 Junior or Senior Research Seminar Cr. 3

Examines what historians have written about a particular topic, theme, or period, along with what has shaped their interpretations. Students will also conduct independent research on a self-chosen aspect of that topic, theme, or period using primary sources and construct a paper based on that research. Offered for undergraduate credit only. Offered Irregularly.

Prerequisites: ([HIS 3000])

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

HIS 6000 Studies in Comparative History Cr. 2-4

Topics to be announced in Schedule of Classes. Offered Biannually.

HIS 6005 Survey of Jewish Civilization and History 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. Offered for graduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: NE 6005

HIS 6010 Studies in American History Cr. 2-4

Topics to be announced in Schedule of Classes. Offered Yearly.

Repeatable for 9 Credits

HIS 6170 Studies in Ethnicity and Race in American Life Cr. 3-4

Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the "Other"? What is an "American"? Offered Biannually.

Equivalent: AFS 6170

HIS 6440 Studies in American Medicine in the Twentieth Century Cr. 3

Major historical benchmarks in the making of the medical system in the U.S., including developments in medicine and medical knowledge, as well as social and political factors that influenced their reception and implementation. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 6780 Introduction to Records and Information Management Cr. 3

Management of information, including records creation, records inventory and appraisal, retention/disposition scheduling, filing systems, maintenance of inactive records, micrographics, vital records protection, and electronic impact on records management. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 6780

HIS 6840 Readings in China and the World 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. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ASN 6840, CHI 6840

HIS 7010 Readings in Colonial North America Cr. 4

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7020 Readings in Revolutionary America Cr. 4

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7030 Readings in the Early American Republic: 1789-1850 Cr. 4

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7040 Readings in the Civil War and Reconstruction: 1850-1877 Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7070 Readings in Contemporary American History: 1945 to the Present Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7130 Readings in American Foreign Relations Since 1933 Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7160 Readings in American Legal Culture to 1857 Cr. 4

The emergence of distinctively Anglo-American legal cultures in the Atlantic basin and then in North America, from early exploration and settlement until the early stages of Civil War. Special attention is paid to law's ongoing relationship to state making, the shifting terrain of citizenship, the emergence of capitalism, and the construction within society of racial, gendered, and class distinctions. Not a pre-requisite for HIS 7170. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

HIS 7170 Readings in American Legal Culture after 1857 Cr. 4

The post-Civil War development of legal-cultural constructs as Americans industrialized, modernized, globalized, and centralized public life. Special attention will be paid to law's ongoing relationship to state-making, the shifting terrain of citizenship, the emergence of the modern welfare state, economic regulation and de-regulation, and the construction of racial, gendered, and class distinctions. Offered Winter.

Restriction(s): Enrollment is limited to Graduate or Law level students.

HIS 7200 Readings in Women, Gender, and Sexuality in US History Cr. 3

An advanced graduate course that explores the history of women in the United States and the role of gender and sexuality in shaping women's and men's experience and identity and the approaches to its study.

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7210 Readings in the Peopling of Modern America, 1790-1914: A History of Immigration Cr. 3-4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7220 Readings in the Changing Shape of Ethnic America: World War I to the Present Cr. 3-4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7230 Rdg: His Of South Cr. 3

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: HIS 5230

HIS 7231 The Conquest in Latin America Cr. 3

Varying perspectives on European conquests in Latin America. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7234 Readings in Race in Colonial Latin America Cr. 3

Use of race to organize colonial society in Latin America. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7239 Readings in Latin American Migration to the United States Cr. 3

Causes, dynamics, and impact of Latin American migration to the United States. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7240 English Legal History Cr. 3

Survey course: 1066 CE to present. Areas of private law: real property, contracts, torts, and family law; criminal law; development of the court system; labor law and rise of modern administrative state. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7251 History of Feminism Cr. 4

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: GSW 7020

HIS 7261 African American History and Memory Cr. 3

An examination of the ways different groups and institutions remember and forget African American history. Each term the course will have a specific focus that will be advertised in advance. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

HIS 7290 Readings in American Labor History Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7300 Readings in the History of American Capitalism Cr. 4

Advanced graduate course in the history and development of American capitalism from the colonial period through the 2008 financial crisis. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7330 Readings in the History of Ancient Greece Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7335 Readings in the History of the Hellenistic Age Cr. 3

The History of Greece and the Eastern Mediterranean world from Alexander the Great to the Roman conquest: 323 B.C. to 30 B.C. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7340 Readings in the History of Ancient Rome Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7345 Readings in Rome and the Barbarian Cr. 3

The relationship between ancient Rome and the pre-state societies that existed beyond its frontiers from about 300 B.C.E to about 500 C.E. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7360 Readings in the Early Middle Ages: 300-1000 Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7370 Readings in the High Middle Ages: 1000-1300 Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7385 Readings in the History of Christianity to the Reformation Cr. 3

Survey of Christianity from Jesus to the Reformation. Balanced coverage of Christianity in Europe, Asia, and Africa. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7386 Readings in the History of Christianity from the Reformation to the Present Cr. 3

Students will read primary and secondary literature relating to the Reformation, the export of Christianity to the New World, Africa, and Asia; and the challenges posed to Christian cultural hegemony in the west by science and modernism. Offered Irregularly.

HIS 7395 Readings in the Social History of the Roman Empire Cr. 3-4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7400 Readings in Early Modern Europe Cr. 4

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7407 Readings in The Scientific Revolution Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7410 Readings in the French Revolution and Napoleon Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7425 Studies in American Environmental History Cr. 3

From the pre-Columbian period to the present day; emphasis on twentieth century urban history, using Detroit as a model for the changing human/environment relationship over the past three centuries. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7440 Readings in Twentieth Century Europe Cr. 4

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7450 Readings on Europe, 1918-1939: Mass Politics and Culture in the Age of Hitler, Stalin, and Mussolini Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7465 Readings in the History of the Holocaust Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7470 Readings in Modern Germany Cr. 3-4

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7480 Readings in Nazi Germany Cr. 3-4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7495 Readings in the History of the Russian Revolution Cr. 3-4

The Russian Revolution, including fall of tsarist Russia, reign of the Provisional Government, and establishment of power by the Communist Party. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7500 Readings in the Soviet Union Cr. 4

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7530 Readings in the History of World War I and II: A Social and Political History of Two World Wars Cr. 4

Provides an in-depth and truly global look at the history of both wars. Topics will include the political events leading up to the wars and their political aftermath, as well as their short- and long-term effects on societies. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7535 Readings in the History of Terrorism Cr. 3

Examines terrorism from its beginnings until its most recent manifestations. It starts with a critical examination of the term terrorism itself, but the main focus of this course will not be on discussions about the concept and its various meanings, but rather on high profile instances of what is commonly referred to as terrorism. The course will take a transnational approach and engage in comparative history. Offered Biannually.

HIS 7540 Readings in World Environmental History Cr. 4

This course examines the transformation of the relationship between human society and the natural environment in global context since 1900. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7550 Readings in Britain: 1485-1714 Cr. 4

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7555 Readings in Britain in the Age of Empire Cr. 4

Readings in the history of Britain and the rise of the British Empire, 1700-1880, focusing on political, economic, intellectual, and social developments. Special emphasis on shifting notions of what it meant to be "British" during the period. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7556 Readings in the History of Modern Britain Cr. 4

Readings in modern British history from 1815 to the present day: political, economic, intellectual, and social developments, in Britain itself and across the empire. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7660 Readings in France Since 1815 Cr. 4

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7665 Global Cities Cr. 3

Social, political, economic, and cultural history of cities around the world, with an emphasis on the 19th and 20th centuries. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7670 Modern American Cities Cr. 4

History of U.S. cities since World War II. Topics include suburbanization, deindustrialization, gentrification, and globalization. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7685 Practicum: Archives Cr. 3

Planned on-site experience in an archives under the direction of a professional archivist/librarian and under the supervision of a member of the faculty. Theory and competencies relevant to the environment. Recommended for students without experience in archives. Offered Every Term.

Prerequisite: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C and INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C and INF 7040 with a minimum grade of C and INF 7710 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7970

HIS 7715 Readings in Everyday Africa: Life Between the Historical Lines Cr. 4

Moving beyond the conventional narrative; an alternative history based on the everyday lives of individuals and communities, challenging the way we understand Africa's past and present. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7725 Readings in African Cities Cr. 4

An exploration of the emergence of cities in sub-Saharan Africa and major themes in the history of urban Africa: work, leisure, popular culture, politics, conflict, gender, generation, ethnicity, and race. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7740 Readings in the History of South Africa Cr. 4

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7745 Archives and Libraries in the Digital World Cr. 3

Overview of electronic tools and the role of digital process in libraries and archives. Offered Spring/Summer.

Prerequisite: INF 6010 with a minimum grade of C or INF 7710 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7740

HIS 7810 Introduction to Archival and Library Conservation Cr. 3

Basic course in the fundamentals of archival and library conservation problems and methods essential for effective preservation management of paper and associated materials. Offered Spring/Summer.

Prerequisite: INF 6010 with a minimum grade of C or INF 7710 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7750

HIS 7820 Description and Access for Archives Cr. 3

Investigation of description of archival materials emphasizing the electronic technologies and standard practices. Offered Yearly.

Prerequisites: (May be taken concurrently: [LIS 7710 with a minimum grade of C] OR [HIS 7840 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7780

HIS 7830 Methods and Research in History Cr. 3

Methods and tools of research and documentation. Use of aids and guides. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7835 Public History: Theory and Method Cr. 3

Theory and practice of public history, including research and interpretation for popular audiences. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7840 Archival Administration Cr. 3

Basic training in archival methods. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7710

HIS 7855 Memory and History Cr. 3

Introduction to the study of collective and public memory in history; interdisciplinary theories and approaches; case studies. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7860 Oral History: A Methodology for Research Cr. 3

Techniques of gathering data from individuals for use in research, classroom teaching, in historical, cultural or other contexts. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7770

HIS 7880 Administration of Historical Agencies Cr. 3

The operation of public and private historical agencies, archives and museums. Determination of agency priorities, problems of staffing and finance, governmental regulations, community relations, and professional ethics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7885

HIS 7890 Administration and Preservation of Visual Collections Cr. 3

Basic course in the fundamentals of administering a visual collection: evaluation, organization, and control of visual collections in archives, librarians, historical agencies, and museums. Offered Winter.

Prerequisite: HIS 7840 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 7730

HIS 7960 Readings in Globalization, Social History and Gender in the Arabian Gulf Cr. 3

Social history of the Arabian Gulf (especially Bahrain, Qatar, and the UAE) in the age of globalization. Contemporary history with special emphasis on gender relations as an index of current social developments in the region. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 7990 Directed Study Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 7998 Internship in Public History Cr. 1-3

Professional experience in public history under the supervision of a public history practitioner and departmental advisor. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

HIS 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

HIS 8005 Seminar in American Historiography Cr. 3

Past and present practices of American historians: their methods and arguments, their choice of chronology, approach and subject. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

HIS 8010 Seminar in Early American History Cr. 3

From first contact between Europeans and Native Americans through the American Revolution. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8020 Seminar in Nineteenth Century American History Cr. 3

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8030 Seminar in Modern American History Cr. 3

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8050 Seminar in the Constitutional and Legal History of the United States Cr. 3

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8060 Seminar in North American Labor History Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8150 Seminar in the History of Gender, Women and Sexuality Cr. 3

Research seminar in the History of Gender, Women, and Sexuality. Topics vary by Term. Offered Yearly.

Prerequisites: ([HIS 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: GSW 8150

Repeatable for 6 Credits

HIS 8180 Seminar in Immigration History Cr. 3

Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8235 Seminar in Early Modern European History Cr. 3

Historiographical, methodological and epistemological issues in doing research in early modern European history. Readings, discussions, focused research. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8240 Seminar in Modern European History Cr. 3

Offered Biannually.

Prerequisite: HIS 7830 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

HIS 8310 Seminar in World History Cr. 3

Concepts, methodologies and theories of world history; readings, discussions, and written critiques of various schools in the field. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

HIS 9900 Teaching History at the College Level Cr. 1

Students meet with graduate director to consider teaching philosophies and strategies; preparation and delivery of a lecture. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

HIS 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: HIS 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: HIS 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: HIS 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

HIS 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral
Candidate; enrollment is limited to Graduate level students.

HON - HONORS

HON 1000 The City Cr. 3

First half of the Honors freshman first-year experience. Urban phenomena, past and present; quality and nature of urban areas; critical approaches to urban issues. Offered Fall.

HON 3000 Service-Learning Requirement Cr. 0

Required for all students graduating with University Honors. Students are involved in community-based education and promotion of civic engagement. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

HON 4200 Seminar in Philosophy and Letters Cr. 3

Analysis of meanings given to human experience through study of philosophy or letters. Honors variant of an approved PL course in General Education Program. Offered Yearly.

Repeatable for 9 Credits

HON 4220 Seminar in Life Science Cr. 3

Analysis of aspects, methods, and important issues in various areas of the life sciences. Honors variant of an approved LS course in General Education Program. Offered Yearly.

Repeatable for 9 Credits

HON 4230 Seminar in Physical Science Cr. 3

Analysis of modern theory and data, implications and possibilities in the physical sciences. Honors variant of an approved PS course in the General Education Program. Offered Yearly.

Repeatable for 9 Credits

HON 4250 Seminar in Historical Studies Cr. 3

Studies of periods of history in which there has been major transition or change. Honors variant of an approved HS course in General Education Program. Offered Yearly.

Repeatable for 9 Credits

HON 4260 Seminar in Foreign Culture Cr. 3

Humanistic or social science investigation of peoples and institutions in other cultures. Honors variant of an approved FC course in General Education Program. Offered Yearly.

Repeatable for 9 Credits

HON 4280 General Honors Seminar Cr. 3

In-depth exploration of important concepts and approaches in liberal studies. Topics to be announced in Schedule of Classes. Offered Yearly.

Repeatable for 9 Credits

HON 4930 Detroit Fellows Tutoring Project Cr. 2-4

Community-based service-learning project designed to improve the reading skills of elementary school students through one-on-one mentoring. Monthly seminar sessions to discuss progress and techniques required. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 16 Credits

HON 4940 Service-Learning Internship Cr. 1-3

Service-learning project with a local community partner. Collateral reading, written work, arranged conferences with faculty supervisor. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

HON 4950 MedStart Seminar Cr. 2

Explorations of various dimensions of health care through shadowing, service, and attendance at the monthly seminars at the Wayne State University School of Medicine. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 16 Credits

HON 4970 BStart Seminar Cr. 1

Training of future leaders in business by emphasizing mentoring and research opportunities with business school faculty. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 8 Credits

HON 4980 University Scholars Seminar Cr. 1

International learning and experiences of designated scholarship students in the Honors College. Reflection and presentation on specific topics related to the local, regional, national and international landscapes. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 8 Credits

HON 4990 Honors Directed Study Cr. 1-4

Offered Yearly.

Repeatable for 8 Credits

HON 4998 University Honors Thesis Cr. 3-6

Independent research project, essay, or creative project. Students are responsible for identifying their own research project and full-time faculty member. At the end of the first semester a deferred grade of Y will be assigned, with a grade change processed at the completion of the thesis in a subsequent semester. Offered Every Term.

IBS - INTERDISCIPLINARY BIOMEDICAL SCIENCES

IBS 7015 Interdisciplinary Cell and Molecular Biology Cr. 7

Molecular biology, biochemistry, and genetics with focus on structure and function of macromolecules, synthesis of macromolecules and their regulation, and genetics. In addition, 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. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

IBS 7030 Functional Genomics and Systems Biology Cr. 2

Exploration of several new technologies for determining gene function on a genome-wide scale and for integrating information into a systems-level view of biological processes. Offered Winter.

Prerequisites: ([IBS 7015 with a minimum grade of C]) AND (May be taken concurrently: [IBS 7040 with a minimum grade of C] OR [IBS 7050 with a minimum grade of C] OR [IBS 7060 with a minimum grade of C] OR [IBS 7090 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

Equivalent: MGG 7030

IBS 7050 Biomedical Neurobiology Cr. 2

Sensory, motor, and integration of nervous systems, including anatomic and cellular organization, systemic and cellular-molecular functions, and diseases. Offered Winter.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

IBS 7090 Biomedical Immunology Cr. 2

Cellular-molecular and systemic functions, and diseases of the immune system. Offered Winter.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the School of Medicine.

IBS 7100 Biomedical Neuropharmacology Cr. 2

General principles, including cellular and molecular basis of drug action with special emphasis on neuronal systems. Offered Winter.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

IBS 7110 Introduction to the Business of Biotechnology Cr. 3

Insights into interface between science and business, during the translation of basic biomedical discoveries into commercial and clinical practice. Offered Winter.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

IBS 7115 Special Topics in Biotechnology Commercialization Cr. 1

Designed to provide practical experience in defining the relationships between academic discovery science and business development, with a focus on best practices for presenting basic research-commercial products to external, interested individuals. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BMS 7115

IBS 7130 Systems Neuroscience: Structure and Function of the Nervous System Cr. 2

Basic principles of neural science through examination of structure and function of the major physiological systems within the brain and spinal cord. Offered Winter.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

IBS 7140 Foundations of Computational Biology Cr. 3

Introduction to basic concepts of linear algebra and their application to biomedical research data analysis. MATLAB programs are introduced and employed as the tool for practical implementation of computational methods. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BMB 7140

IBS 7330 Advanced Molecular Biology Cr. 2

Modern topics in biochemistry, including nucleic acid dynamics, genomic structure, DNA replication and repair, transcription, RNA processing, translation and protein synthesis. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

IE - INDUSTRIAL ENGINEERING

IE 1560 Operations Research: Deterministic Mathematical Models Cr. 2

Introduction to mathematics of decision making in industry and government. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

IE 3120 Work Design Cr. 3

Role of the human as an element of the work environment. Traditional issues of work standards, productivity analysis and occupational safety are introduced. Examination of functional and organizational role of the worker; impact of emerging computer-based technologies on work design and implementation strategies is discussed. Offered Fall.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 3450 Manufacturing Processes I Cr. 3

A study of the field of manufacturing processes from a mechanical engineering design standpoint. Topics include: processing of metals, polymers, and ceramics, and computer-aided manufacturing. Offered Yearly.

Prerequisite: (CE 2400 with a minimum grade of C- or ME 2400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

Equivalent: ME 3450

IE 3460 Manufacturing Processes Lab Cr. 1

Laboratory to accompany I E 3450. Offered Fall.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4120 Introduction to Human Factors Engineering Cr. 4

Current practice perspective on human capabilities and limitations as a component in engineering systems. Analysis and design of human-centered systems, with emphasis on applications. Offered Winter.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students.

IE 4250 Engineering Data Analysis Cr. 3

Advanced concepts for the analysis of variability in engineering problems, multivariate distributions, hypothesis testing, non-parametric statistics, point and interval estimation, fitting straight lines, goodness of fit tests, contingency tables and introduction to the analysis of variance. Offered Winter.

Prerequisite: BE 3220 with a minimum grade of C- or BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4260 Principles of Quality Control Cr. 3

Statistical quality control including process capability, control charts, and acceptance sampling procedures. Procedures for measurement of dimensional tolerance are introduced. Computer-based data collection and analysis. Offered Yearly.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4310 Production Control Cr. 3

The design of production planning and control systems. Materials management, forecasting, planning, scheduling of production systems, the planning and scheduling for large scale projects and introduction to the design of computerized materials management systems. Applications of operations research models to production control problems. Offered Winter.

Prerequisite: IE 4560 with a minimum grade of C- and ENG 3050 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4330 Facilities Design Cr. 3

Design of manufacturing, warehouse and material handling facilities. Use of analytic and computer-aided methods in the facilities design process. Offered Winter.

Prerequisite: IE 3120 with a minimum grade of C- and IE 4850 with a minimum grade of C- and IE 4310 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4355 Product Engineering Cr. 3

Current principles and processes of product engineering. Use of integrated product engineering processes and methods. Offered Winter.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the College of Engineering.

IE 4420 Systems Simulation Cr. 3

Systems modeling and discrete event simulation. Methodology applied to analysis and design of a broad range of systems including both production and service systems. Computer assignments and a term project are required. Offered Yearly.

Prerequisites: (BE 1200 with a minimum grade of C-) AND ((BE 2100 with a minimum grade of C-) AND (BE 2550 with a minimum grade of C-))

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4560 Operations Research Cr. 3

An introduction to the philosophy of operations research. Formulation of linear programming models and their solution. Duality and sensitivity analysis. The transportation model. Introduction to probabilistic modeling and applications of queueing models. Offered Fall.

Prerequisite: BE 2100 with a minimum grade of C- and MAT 2150 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4700 Leadership in Manufacturing Cr. 3

Leadership of individuals and teams in a unionized manufacturing environment. Technical elective for Production Leadership Management Program (PMPL) students. Offered Fall.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4710 Labor Relations in Manufacturing Cr. 3

Knowledge and skills in administering labor agreements. Technical elective for Production Leadership Management Program (PMPL) students. Offered Winter.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students.

IE 4800 Engineering Design I: Project Management Cr. 2

Project selection, team building, and methodological preparation required for Engineering Design Project II. Offered Yearly.

Prerequisites: (2 of IE 4420, IE 4330, IE 4560) AND ((IE 3120) AND (IE 4250)) AND (IE 4850)

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 4850 Engineering Economy Cr. 3

Economic analysis of engineering projects. Selection of appropriate interest rates and methods of analysis, depreciation, tax considerations, and use of accounting data in comparison of investment alternatives. Offered Yearly.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

Equivalent: CE 4850

IE 4880 Engineering Design II Cr. 2

Intensive design experience defined and executed by the student. Requires synthesis and application of skills and knowledge gained in the program. Offered Winter.

Prerequisites: (May be taken concurrently: [IE 4260]) AND (May be taken concurrently: [IE 4310]) AND (May be taken concurrently: [IE 4330]) AND (May be taken concurrently: [IE 4420]) AND (May be taken concurrently: [IE 4560]) AND ((IE 4800))

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4990 Directed Study Cr. 1-6

Supervised study and instruction in a field selected by the student. Offered Irregularly.

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

IE 5100 Quantitative Physiology Cr. 4

The basic principles of human physiology presented from the engineering viewpoint. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models when feasible. Offered Winter.

Prerequisites: ((BME 5005 with a minimum grade of C) OR [BME 2010 with a minimum grade of C])

Equivalent: BME 5010, CHE 5100, ECE 5100, ME 5100

IE 5780 Products Liability Introduction for Engineers Cr. 1

Application of engineering practice to minimize products liability exposure. Stages of a products liability lawsuit; how engineers may be involved at different stages of the process. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters or Senior; enrollment limited to students in the College of Engineering.

Equivalent: ME 5780

IE 5995 Special Topics in Industrial Engineering Cr. 1-4

Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes. Offered Irregularly.

IE 6000 Digital Automation Cr. 4

Fundamentals of digital control and logic; integration and automation solution technologies (barcode systems, vision systems, etc.); data acquisition. Offered Spring/Summer.

IE 6005 Automotive Engineering Statistics Cr. 3

Introduction to probability and statistics for engineering students: analysis of random component in problems, understanding probability and statistics, opportunities for application, analysis of data using statistical software. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 6180 Biomedical Instrumentation Cr. 4

Engineering principles of physiological measurements. Signal conditioning equipment, amplifiers, recorders and transducers. Recent advances. Offered Winter.

Prerequisites: ([BME 5010, BME 5020, and ECE 3300] OR [BMS 6550] OR [BMS 5550])

Equivalent: BME 6480, ECE 6180, ME 6180

IE 6210 Applied Engineering Statistics Cr. 4

Analysis of variability in engineering decision making; data analysis, probabilistic models, hypothesis testing, regression and analysis of variance. No credit after IE 4250. Offered Fall, Winter.

Prerequisite: BE 2100 with a minimum grade of C-

IE 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. Offered Spring/Summer.

IE 6240 Quality Management Systems Cr. 4

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. Offered Winter.

Prerequisite: BE 2100 with a minimum grade of C-

IE 6270 Engineering Experimental Design Cr. 4

The design of engineering experiments for manufacturing process analysis, human factors experimentation, societal systems analysis and life testing; basic experimental design models, blocking, factorial experiments, nested designs, covariance analysis, response surface analysis, estimation of effects. Offered Fall.

Prerequisite: IE 6210 with a minimum grade of C

IE 6310 Lean Operations and Manufacturing Cr. 2

Fundamental theories and concepts in lean manufacturing, six-sigma, mistake proofing, problem solving, process management. Students develop competency in identifying causes and sources of waste in manufacturing, industrial, and business operations. Offered Fall, Winter.

IE 6405 Integrated Product Development 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. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5600, EVE 5600

IE 6420 Computer Aided Manufacturing and Lab Cr. 4

CAM and process planning. Principles of manufacturing planning and control. Design and integration of ASRS, AGVS, robotic systems in manufacturing. Offered Winter.

IE 6425 Product Lifecycle Management and Sustainable Design Cr. 4

Introduction to modern principles, practices, and applications of PLM and sustainable design. Offered Winter.

IE 6430 Computer Simulation Methods Cr. 2

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. Offered Fall, Winter.

Prerequisite: IE 6310 (may be taken concurrently) with a minimum grade of C

IE 6435 Fundamentals of Sustainable Manufacturing Cr. 3

Sustainable manufacturing, as defined by the U.S.A. Department of Commerce, is "the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound." This course is designed to introduce the fundamental concepts of sustainable manufacturing. While the focus will be on sustainable manufacturing, topics will also include connections of sustainable design, environmental sciences, and the social sciences with sustainable manufacturing. Offered Biannually (Fall).

IE 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. Offered Winter.

IE 6470 Stochastic System Modeling: Queuing and Simulation Cr. 2

Description of queuing systems; analytical solutions; discrete events systems; modeling framework and object models; terminating and non-terminating systems; statistical analysis; case studies. Offered Yearly.

IE 6490 Introduction to Systems Engineering in Design Cr. 2

Introduction to the engineering and analysis of systems with process focus. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Engineering.

IE 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. Offered Fall.

IE 6520 Negotiating in an I E Environment Cr. 2

Analytic and interpersonal skills needed to negotiate effectively. Students integrate the analytic and interpersonal skills necessary to be an effective negotiator in a rapidly-changing technical environment. Offered for graduate credit only. Offered Biannually (Spr/Sum).

Restriction(s): Enrollment is limited to Graduate level students.

IE 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. Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

IE 6610 Introduction to Six Sigma Cr. 4

For the working engineer who requires exposure to basic concepts of 6-Sigma and its work applications. Offered Winter, Spring/Summer.

IE 6840 Project Management 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. Offered Winter.

Equivalent: MGT 6840

IE 6850 Manufacturing Strategies Cr. 2

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. Offered Yearly.

IE 6991 Industrial Internship Cr. 1-3

Offered Fall, Winter.

Repeatable for 99 Credits**IE 7100 Mathematical Modeling in Impact Biomechanics Cr. 3-4**

Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.

Prerequisites: (IE 5100 and ME 3400) OR [BMS 6550] OR [BMS 5550])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7100, ECE 7100, ME 7100

IE 7125 Human Factors Engineering Cr. 4

Current methods and topics in engineering research on human capabilities and limitations as a system component. Advanced analysis, modeling and design of human-centered systems. Offered Winter.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

IE 7210 Robust Design Cr. 4

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. Offered Fall.

Prerequisite: IE 6210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

IE 7250 Quality Engineering Cr. 4

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. Offered Winter.

Prerequisite: IE 6210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

IE 7270 Reliability Estimation Cr. 4

Reliability measures, failure distributions, reliability block diagrams, reliability estimation using exponential and Weibull distributions, sequential life testing and Bayesian reliability. Offered Fall.

Prerequisite: BE 2100 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

IE 7290 Quality and Productivity Management Cr. 4

Topics in product assurance management including: definition, history, philosophy of quality. Strategic elements of proactive quality, design for quality, process project control, reliability program management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

IE 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. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

IE 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. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7400 Capstone: Integrated Product Engineering Cr. 4

Integration of product development tools and theory. Industry-based project to develop hands-on experience with integrated project design and development. Application to robust product development methodologies. Offered Winter.

Prerequisite: IE 6400 with a minimum grade of C and IE 6410 with a minimum grade of C and IE 6420 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

IE 7410 Agile Systems for the Manufacturing Enterprise Cr. 2

Factors that help define the agility of a system; greater workforce autonomy and changes in training and production of technical personnel. Main elements of operations management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

IE 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). Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7480 Knowledge-Based Design Cr. 3

Provides in-depth understanding of knowledge roles, knowledge elicitation techniques, knowledge based system and system modeling issues, and semantic modeling to support product design. Students will learn the concepts via lecture, articles, and semantic product model implementation projects. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 7520 Optimization Methods Cr. 4

Introduction to optimization theory and optimization problems. Necessary and sufficient conditions for optimality. Mathematics and algorithms of linear programming. Non-linear programming and integer programming. Research methods. Duality in optimization problems. Geometric programming. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7521 Large Scale Optimization and Integer Programming Cr. 3

Examines modeling and solution methodologies for large scale optimization and integer programming problems. Presents the theory and the exact and approximate techniques that have been developed to solve related models. Techniques include branch and bound, cutting planes, Lagrangian relaxation, Bender's decomposition, and column generation. Polyhedral theory will be discussed at some length. Offered Biannually (Winter).

Prerequisite: IE 6560 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

IE 7570 Deterministic System Models and Optimization Cr. 2

Methods for quantifying impact of specific constraints on overall performance of a system; use of journal articles on corporate use of these models. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7610 Fundamentals of Six Sigma Cr. 4

For the industrial engineer with a solid foundation in probability and statistics. Advanced knowledge to develop students into 6-Sigma consultants. No credit after IE 6610. Offered Winter.

Prerequisite: IE 6210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

IE 7710 Introduction to Stochastic Processes Cr. 4

Fundamental understanding of various probability models from applied and theoretical perspectives. Topics include: probability review, Markov chains, Poisson process, continuous time Markov chains, queuing processes, and inventory applications. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7720 Engineering Risk and Decision Analysis Cr. 3-4

Structure, modeling and analysis of technical management decisions with emphasis on multiple objectives and trade-offs, and significant uncertainty. Explores barriers to rational decision making. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate level students.

IE 7811 Data Mining: Algorithms and Applications Cr. 3

Application of various basic/advanced data mining techniques to real-world problems. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CSC 7810

IE 7830 Management of Technology Change Cr. 2

In-depth treatment of development and implementation of advanced technology; special attention to interaction among technology work process, organization, human resources, and culture. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7860 Intelligent Analytics Cr. 3

Computational intelligence methods used to solve complex analytics problems and develop decision support systems. Project-centric approach with the goal of developing several analytics solutions for real-world problems. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7870 Quality Leadership and Process Improvements Cr. 2

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

IE 7990 Directed Study Cr. 1-6

Student selects some field of industrial engineering for advanced study and instruction. An outline approved by the instructor must be presented before registration in this course. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

IE 7995 Graduate Special Topics Cr. 1-4

Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

IE 7996 Research Cr. 1-6

Advanced design, investigation or experimental work. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

IE 7999 Engineering Management Leadership Project Cr. 1-6

Integration of knowledge from individual courses in M.S. engineering management curriculum. Team-oriented focus on major industrial problem. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 10 Credits

IE 8920 Decision and Risk Analysis for Research Cr. 3

Structure, modeling, and analysis of technical global management decisions with emphasis on multiple objectives and trade-offs, and significant uncertainty. Explores current trends in decision analysis research. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to students with a major in Industrial Engineering GET or Industrial Engineering; enrollment limited to students in a Doctor of Philosophy degree.

IE 8930 Global Perspectives on Engineering Manufacturing and Management Cr. 2

Provides technical leaders with a system of frameworks to holistically understand and practically manage operations, to be technologically competitive in the global marketplace. Foundation for the Country Courses. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students.

IE 8935 Global Engineering and Manufacturing Management: Eastern Europe Cr. 1

Country course designed to provide broad coverage about Eastern Europe to an industrial engineering cohort with considerable business experience. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 8936 Global Engineering and Manufacturing Management: South America and Mexico Cr. 1

Country course designed to provide broad coverage about South America and Mexico to an industrial engineering cohort with considerable business experience. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

IE 8941 From Idea through Launch: Products and Services I Cr. 2-3

Course comprised of twelve modules; the processes and progression from product or service innovation to development and launch. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students.

IE 8942 From Idea through Launch: Products and Services II Cr. 3

Course comprised of twelve modules; the processes and progression from product or service innovation to development and launch. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment limited to students in the PhD in Engineering program; enrollment is limited to Graduate level students.

IE 8943 From Launch through Sustainability: Products and Services I Cr. 2-4

From when the finished product hits the market to all the steps necessary to make the product sustainable. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students.

IE 8944 From Launch through Sustainability: Products and Services II Cr. 2-4

From when the finished product hits the market to all the steps necessary to make the product sustainable. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students.

IE 8950 Advanced Engineering Statistics Cr. 3

Skill development in model building, ANOVA, multiple regression, multivariate statistics, forecasting, and time series modeling. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment limited to students in the PhD in Engineering program; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 8951 Research Design Cr. 3

Focus on qualitative research design and methods. Discussion of conceptual and practical facets of the process of framing a research question, up to development of an instrument for data collection. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 8952 Research Methods Cr. 3

Focus on quantitative research design and methods. Topics such as purpose of statistical models, mathematical representation, interpretation, and methods are covered. Typical methods include: multiple regression, multivariate analysis (including survey data), and structural equation modeling. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 8960 Literature Review Cr. 1-2

Development of library skills for identifying key authors, articles, journals, books, dissertations, case studies, conferences, web sites, professional associations, and NSF funding for a scholarly area of interest. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment limited to students in the PhD in Engineering program; enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 8970 Leadership of the Global Technical Organization Cr. 3

Understanding the elements of leadership and the dynamics of leadership behavior; development of the skills necessary for leading in a global technical organization. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment is limited to Graduate level students.

IE 8993 Graduate Seminar: Supply Chain Management Cr. 1

Research and development methods for Ph.D. students: literature review, identification of research opportunities, investigation of specific topics; assessment of major contributions and of gap between application and theory. Students present research findings and receive feedback. Offered Irregularly.

Restriction(s): Enrollment limited to students in the PhD in Engineering program; enrollment is limited to Graduate level students.

IE 8995 Graduate Seminar Cr. 1

Research and development methods. Leading-edge research topics. Platform for student to present preliminary research findings and obtain feedback. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the PhD in Engineering program; enrollment is limited to Graduate level students.

Repeatable for 99 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

IE 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: IE 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: IE 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: IE 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

IM - IMMUNOLOGY AND MICROBIOLOGY

IM 7010 Fundamentals of Immunology Cr. 2

Basic concepts and current developments in immunology, including cellular and molecular aspects, regulation, and immunopathological mechanisms. Offered Winter.

Prerequisite: BMB 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

IM 7020 Fundamentals of Microbiology Cr. 2

Basic aspects of bacteriology, genetics and mycology. Offered Fall.

Prerequisite: CHM 2260 with a minimum grade of C- and BIO 2200 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

IM 7030 Molecular Biology of Viruses Cr. 2

Basic principles of virology including virus host interactions and the molecular biology of virus multiplication and genetics. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

IM 7040 Fundamentals of Research Cr. 2

Lecture/discussion of practical aspects of professional scientific research. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

IM 7060 Laboratory Research Cr. 2

Preparation for doing Master's thesis research in a laboratory. Students complete 3-4 week rotations in three different research laboratories prior to choosing a thesis research lab. Offered Fall.

Prerequisite: IM 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate or Medical level students; enrollment limited to students in a Master of Science degree; enrollment limited to students in the School of Medicine.

IM 7410 Cancer Immunology and Immunotherapy Cr. 3

Cancer immunotherapy based on the molecular mechanisms of T cell development, tolerance and activation. Topics include T cell receptor and co-stimulatory signal-mediated regulation of T cell activation, transcriptional regulation of T cell differentiation, T cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion for 11 weeks. Offered Yearly.

Prerequisite: IBS 7090

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CB 7410

IM 7450 Current Trends in Immunology, Microbiology and Virology Cr. 1-5

Lectures and discussions on current literature and research problems. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

IM 7520 Molecular Mechanisms of Bacterial Pathogenesis Cr. 2

The roles of bacterial virulence factors such as tissue colonization, invasion, and exotoxins in pathogenesis. The genetic regulation of bacterial virulence factors will be discussed. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

IM 7850 Research Conferences in Immunology and Microbiology Cr. 1-5

Seminars and discussions in selected areas. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

Repeatable for 20 Credits

IM 7890 Seminar Cr. 1

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

IM 7996 Research Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Immunology and Microbiology; enrollment is limited to Graduate level students.

Repeatable for 25 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

IM 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: IM 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: IM 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: IM 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

ISM - INFORMATION SYSTEMS MANAGEMENT

ISM 3630 Business Information Systems Cr. 3

Introductory information systems management course, which establishes a foundation for understanding the value of information systems in organizations. Provides a management-oriented study of computer-based information systems in organizations and an overview of the manner in which information systems and technology supports business processes, managerial decision-making, and organizational strategy. Offered Every Term.

Prerequisites: (MAT 1500 with a minimum grade of C)

Restriction(s): Enrollment limited to students in the School of Business.

ISM 4500 Business Co-op Assignment Cr. 0

Provides students with practical application of theory to on-the-job experience. Students must be admitted to the University's Cooperative Education Program during the work semester that the course is to be taken. Students will normally be assigned to a cooperating business organization for internship periods of one semester. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 4575 IT Security Cr. 3

Provides an investigation of contemporary issues in computer security. Students are exposed to the spectrum of security activities, procedures, and methodologies. Topics include: inspection and protection of information assets; detection of and reaction to threats to information assets; examination of pre- and post-incident procedures, and technical and managerial responses; and an overview of information security planning and staffing functions. Offered Yearly.

Prerequisite: ISM 3630 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 4990 Directed Study in Information Systems Management Cr. 1-3

Provides the student with the opportunity to focus on advanced readings, projects (e.g., tutorials, certifications), and research in a particular area of information systems management that is of interest to the student and faculty member. Offered Every Term.

Prerequisites: ((ISM 5820 with a minimum grade of D-) AND ((ISM 5860 with a minimum grade of D-) AND ((ISM 5992 with a minimum grade of D-) AND ((ISM 5994 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5200 ERP Systems: Concepts and Practice Cr. 3

Discusses the role and function of ERP systems within organizations; analyzes the major business processes in their organization and their implementation using ERP software; provides hands-on use of ERP tools for transaction processing and decision support; and describes the use of ERP systems for customer relationship management (CRM), supply chain management (SCM), and electronic commerce. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ACC 3010 with a minimum grade of C]) AND ([ACC 3020 with a minimum grade of C]) AND ([ISM 3630 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$117

Equivalent: ACC 5200

ISM 5530 Ethics in Information Technology Cr. 3

An awareness of the wider social, legal and ethical issues of information technology. Relationship between technological change, society and the law. Student is introduced to legal issues such as intellectual property and liability for defective software. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: (May be taken concurrently: [ISM 3630 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Equivalent: ISM 7530

ISM 5560 Survey of e-Commerce Cr. 3

Provides an introduction to electronic commerce. Topics include: e-commerce scope, business-to-business (B2B) and business-to-consumer (B2C) activities; supporting software, hardware, networking, security technologies; readings and online discussions. Offered for undergraduate credit only. Offered Yearly.

Prerequisite: ISM 3630 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5570 Data Mining and Analytics Cr. 3

Focuses on developing techniques to analyze large datasets and using techniques, algorithms, and software to automate the analysis and exploration of those datasets. Covers the methodology, major software tools, and applications in the data mining and analytics field. Offered for undergraduate credit only. Offered Yearly.

Prerequisite: ISM 3630 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$16

ISM 5670 Special Topics in Information Systems Cr. 3

Topics range from JAVA to digital video creation and analytics. Offered for undergraduate credit only. Offered Irregularly.

Prerequisite: ISM 3630 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Repeatable for 6 Credits

ISM 5705 Inbound Information Technology Cr. 3

Provides insights and practical guidelines to help students learn how to create an appealing and engaging digital presence for businesses. The discussion focuses on topics relevant to planning, managing, and implementing on-line and social media interactivity such as: search engine organization (SEO), inbound links, page ranking, tagging content, pillaring content, publishing content, analytic reports, blogging, tweeting and other social media. Offered for undergraduate credit only. Offered Fall.

Prerequisites: ([ISM 3630])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$50

ISM 5820 Systems Analysis and Design Cr. 3

Presents a structured and formal approach to information systems development. Analysis, logical requirements specification, general and detailed design, control, and implementation of information systems are discussed. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([ISM 3630 with a minimum grade of D-]) OR [ISM 4630 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5860 Data Communications and Networks Cr. 3

Data communication concepts and terminology, communication system design approaches, data communications standards, data communications software and hardware, network architecture, distributed management information systems. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((ISM 5820 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$13

ISM 5890 Internship in Information Systems Cr. 3

Student performs assigned tasks and responsibilities in a professional manner under supervision of host-employer for a minimum of 160 hours during the semester, abiding by the rules and regulations established by the employer and expected by all employees; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business Administration. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((FIN 3290 with a minimum grade of D-) OR [FIN 4290 with a minimum grade of D-]) AND ((ISM 3400 with a minimum grade of D-) OR [BA 3400 with a minimum grade of D-] OR [ISM 4400 with a minimum grade of D-]) AND ((ISM 3600 with a minimum grade of D-) OR [BA 3600 with a minimum grade of D-] OR [ISM 4600 with a minimum grade of D-]) AND ((ISM 3630 with a minimum grade of D-) OR [ISM 4630 with a minimum grade of D-]) AND ((MGT 2530 with a minimum grade of D-) OR [MGT 4530 with a minimum grade of D-]) AND ((MKT 2300 with a minimum grade of D-) OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5900 Project Management Cr. 3

Provides the student with an understanding and appreciation of the different knowledge areas of project management, as well as insight into developing the inputs, tools, techniques, and outputs to successfully manage products. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((ISM 3630 with a minimum grade of C]) AND ((MGT 2530 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Equivalent: MGT 5900

ISM 5992 Database Systems Cr. 3

Details the importance of data in today's enterprise and describes the theories, models, and techniques for designing, developing, creating, and manipulating a database. Students will practice data modeling, physical database design, database implementation, and complete introductory SQL exercises. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((ISM 3630 with a minimum grade of D-) OR [ISM 4630 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$13

ISM 5994 Software Tools for Business Applications Cr. 3

Introduces the student to the use of the Internet to create a digital presence. Students design and develop websites, create responsive web pages to provide an optimal viewing experience, and integrate database functionality allowing all web pages to "know" who is looking at the information using HTML, Javascript, Hubl, HubDB, Wistia, and cascading style sheets (CSS). Smart design includes content complete with video, progressive forms, and focused calls-to-action. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((ISM 5820 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Course Material Fees: \$13

ISM 6997 Information Systems Policy and Management Cr. 3

Within the overall structure of the systems approach, this capstone course integrates the managerial, technical, and strategic planning and control concepts developed throughout the undergraduate courses. It also focuses on the concepts and methodologies necessary for management of information systems projects. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((ISM 5820 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 7500 Business Information Systems Cr. 2

Teaches students how IT can influence, support, and advance organizational operations, performance, and decision making. The course will also teach students, as managers or employees, how to effectively define their information needs and utilize IT to increase their effectiveness. No credit after ISM 4630 or ACC 6070. Offered Fall, Winter.

Prerequisites: ((BA 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ISM 7505 Information Analytics: Inbound Information Technology Cr. 3

The evolving cyberspace organization. Insights and practical guidelines to create an appealing and engaging digital presence. Discussion focuses on topics relevant to planning, managing, and implementing online and social media interactivity such as search engine organization (SEO), inbound links, blogging, page ranking, tagging content, tweeting, publishing content, analytic reports, and social media. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$113

ISM 7510 Database Management Cr. 3

Overall examination of database management and knowledge management systems. Theories, models, and techniques for designing, developing, understanding, utilizing and creating competitive advantage through database systems. Topics include data modeling, logical and physical database design, strategic value of data, introductory SQL, knowledge management, and emerging database technologies. No credit after ISM 5993. Offered Yearly.

Prerequisites: ((BA 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$13

ISM 7520 Information Systems Design Cr. 3

Non-technical course in how to use information systems to add value to an organization. Use of system analysis techniques to study and identify information needs of organizations and integration of IT specialists and manager-users. Topics include: IT and organizational design, inter-networking infrastructure, organization and leading the IT function. How information systems professionals link MIS to specific business operations and objectives to increase value; how managers may use information systems to support activities and increase individual productivity. No credit after ISM 5820. Offered Yearly.

Prerequisites: ((ISM 7500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ISM 7530 Societal and Ethical Issues in the Information Age Cr. 3

Issues such as computer crime, privacy, copyrighting of software; other ethical issues related to use of business systems and information systems. No credit after ISM 5530. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ISM 7560 Survey of E-Commerce Cr. 3

Introduction to electronic commerce: scope, business-to-business and business-to-consumer activities; supporting software, hardware, networking, security technologies; readings and online discussions. Offered Every Term.

Prerequisites: ((ISM 7500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

ISM 7570 Data Mining Cr. 3

Tools and techniques used to analyze large data bases; hands-on approach to common techniques. Emphasis on application of data mining to problems in marketing, finance, and other business disciplines. Offered Every Term.

Prerequisites: ([BA 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$16

ISM 7575 Corporate Computer Networks and IT Security Cr. 3

Broad selection of contemporary issues in computer security. Security activities, methods, methodologies, and procedures including inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post-incident procedures, technical and managerial responses, and an overview of the Information Security Planning and Staffing functions. Includes many topics for Security+ exam by CompTIA. Offered Yearly.

Prerequisites: ([BA 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ISM 7890 Internship in Information Systems and Management Cr. 3

Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in information systems. Offered Yearly.

Prerequisites: ([ISM 7500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ISM 7900 Project Management Cr. 3

Management of resources (budget, personnel, materials, etc.) within the scope of a given project; understanding and appreciation for the different knowledge areas of project management; insight into identification of inputs, tools, and techniques of project management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: MGT 7900

ISM 7994 Digital Content Development Cr. 3

Development of responsive, smart, and personalized web sites using leading web development tools and technologies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

ISM 7995 Directed Study in Information Systems and Management Cr. 1-3

Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Yearly.

Prerequisites: ([ISM 7500 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ISM 7996 Principles for Customer Relationship Management Cr. 3

Investigation of the antecedents and consequences of implementing a customer-relationship management strategy. The course will provide students with insight on: What CRM and its conceptual foundations are; How CRM forces the interaction between corporate strategy, organizational structure, supply chain, and customer facing front end; The role of measuring and managing customer satisfaction, customer loyalty and customer profitability; Hands-on application with salesforce.com. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$75

Equivalent: MKT 7996

ISM 8000 Seminar in Information Systems and Management Cr. 3

Current developments and emerging trends. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ITA - ITALIAN

ITA 1010 Beginning Italian I Cr. 4

Introduction to Italian language and its culture through exposure to authentic materials and interactive activities; developing communicative reading, writing, listening, and speaking skills and cultural proficiency. No experience with Italian is needed. Offered Every Term.

Course Material Fees: \$5

ITA 1020 Beginning Italian II Cr. 4

Continuation of ITA 1010. Strengthening communicative skills (reading, writing, speaking, and listening) and expanding cultural understanding and proficiency through exposure to authentic materials and interactive activities. Offered Every Term.

Prerequisites: ([ITA 1010 with a minimum grade of D-])

Course Material Fees: \$5

ITA 2010 Intermediate Italian Cr. 4

Refining communicative skills (reading, writing, speaking, and listening) and cultural proficiency through extensive exposure to authentic sources, material, and interactive activities. Completion of this course fulfills the General education requirement for foreign language and culture. Offered Every Term.

Prerequisites: ([ITA 1020 with a minimum grade of D-])

Course Material Fees: \$5

ITA 2020 Italian Through Film Cr. 3

Increasing communicative abilities and cultural proficiency through study and analysis of Italian films, readings including contemporary news and fiction, and more interactive activities. Offered Every Term.

Course Material Fees: \$5

ITA 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4

A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus, and Unamuno. Offered Biannually.

Equivalent: FRE 2700, GER 2700, RUS 2700, SPA 2700

ITA 2710 Italy and Italians I Cr. 3

Overview of development of Italian culture and civilization from their origins to 1500; emphasis on those aspects that prepared the political, social, cultural and intellectual groundwork of Humanism and the Renaissance. Taught in English. Offered Yearly.

ITA 2720 Italy and Italians II Cr. 3

Overview of Italian culture and civilization from 1500 to 1947: the Renaissance, Italian contributions to science, Unification of Italy, the Fascist era, the new republic. Taught in English. Offered Yearly.

ITA 2990 Topics: Romance Studies Cr. 3

Offered Fall, Winter.

Equivalent: FRE 2990, SPA 2990

ITA 3030 Road to Italy Cr. 3

Study and in-depth analysis of the Italian language and its cultural daily life. An interactive and highly communicative understanding of art, literature, music, cinema, food, media and TV, sport and leisure activities. Offered Yearly.

ITA 3040 Business Italian Cr. 3

Understanding and developing basic business terminology, while studying style and etiquette for the Italian business world. Students will also learn how to write business correspondence in Italian. Offered Biannually.

Prerequisites: ([ITA 2010 with a minimum grade of D-])

ITA 3100 Caffè Italia Cr. 3

Enhancing speaking, reading, and listening skills through debates, discussions and presentations on current events and topics. Offered Every Term.

Prerequisites: ([ITA 2020 with a minimum grade of D-])

ITA 3200 Italian Rebels Cr. 3

A journey through forty years of turbulent Italian contemporary history. Through readings, songs of protest, epic film, and more, this course will strengthen and enhance the cultural and linguistic knowledge of contemporary Italy and Italians, focusing on formal and informal writing and research skills. Offered Every Term.

Prerequisites: ([ITA 2020 with a minimum grade of D-])

ITA 4610 The Birth of Italian Language and Literature Cr. 3

A journey in Italian literature and culture, from Marco Polo and the birth of the Italian language to the controversial writings of Galileo Galilei. Offered Fall.

Prerequisites: ([ITA 2020 with a minimum grade of D-])

ITA 4620 The Birth of Italy Cr. 3

A study of the formation of Italy through its literature and culture, from the Enlightenment to the contemporary period. Offered Winter.

Prerequisites: ([ITA 2020 with a minimum grade of D-])

ITA 5000 Minor Language Practicum Cr. 3

Controlled application of active language skills for students electing a Ph.D. minor in Italian. No degree credit toward the Ph.D. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

ITA 5150 Italian Cinema Cr. 3

Concentrated study of specific trends or the development of individual directors. Topics to be announced in Schedule of Classes. Offered Biannually.

Course Material Fees: \$10

Repeatable for 9 Credits

ITA 5200 Italian Theater Workshop Cr. 3

A study of Italian language, including verbal expression, pronunciation, phonetics, listening exercises, and gestures in the applied context of theater performance. Offered Yearly.

Prerequisites: ([ITA 3100 with a minimum grade of D-])

ITA 5570 Topics in Italian Studies Cr. 3

In-depth study of author or group of authors, genre, historic period, or particular literary or cultural movement. Topics to be announced in Schedule of Classes. Offered Biannually.

Prerequisites: ([ITA 4610 with a minimum grade of D-]) AND ([ITA 4620 with a minimum grade of D-])

Repeatable for 9 Credits

ITA 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

ITA 5993 Writing Intensive Course in Italian Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with designated corequisite; see section listing in Schedule of Classes for corequisites available each term.

Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [ITA 3000] OR [ITA 6000] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

ITA 5999 Internship in Italian Studies Cr. 3

Internship in a public or private organization related to Italian studies. Offered for undergraduate credit only. Offered Every Term.

Prerequisite: ITA 3040 with a minimum grade of C- or ITA 3100 with a minimum grade of C- or ITA 3200 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Italian or Italian Honors.

ITA 6400 Languages of Italy Cr. 3

A study of the Italian language and its dialects from early years to present. Representative texts from various periods will explore Italy's diverse linguistic landscape. Offered Yearly.

Prerequisite: ITA 3200 with a minimum grade of D-

ITA 6500 Introduction to Literary Criticism Cr. 3

Overview of various currents of critical theory, focusing on literary and cinematographic texts. The two-fold pedagogical approach, theoretical and empirical, will use semiotics as a disciplinary tool of analysis and apply it to the textual material studies in this course. Offered Irregularly.

ITA 6610 Dante's Comedy I: Inferno Cr. 3

A close reading of Dante's Inferno with attention to sources, background, and interpretation. Offered Biannually.

Prerequisite: ITA 3200 with a minimum grade of D-

Repeatable for 6 Credits

ITA 6620 Dante's Comedy II: Purgatory and Paradise Cr. 3

A close reading of Dante's Purgatory and Paradise with attention to sources, background, and interpretation. Offered Biannually.

Prerequisite: ITA 6610

Repeatable for 6 Credits

ITA 6680 Love, Politics and the Art of Elegance Cr. 3

A study of major contributions of the Italian Renaissance that shaped modern thought with a special focus on the art of elegance, effortless mastery, love, and politics. Offered Yearly.

Prerequisites: ((ITA 4610))

Repeatable for 12 Credits

ITA 6690 Italian Love Sickness Cr. 3

A close study of major Baroque works that shaped ideas of love, the phenomenon of love sickness, and the scientific remedies for it. Offered Biannually.

Prerequisites: ((ITA 4610))

ITA 6700 Performing Italy Cr. 3

A study of Italian theater, music, and opera, with a particular focus on the eighteenth century. Offered Biannually.

Prerequisites: ((ITA 4620))

Repeatable for 9 Credits

ITA 6800 Imagining Italy, Creating Italians Cr. 3

A study of the literature, culture, and history of the period of Italian unification. Offered Biannually.

Repeatable for 9 Credits

ITA 6870 Modern Italy in Transition Cr. 3

A study of transformation, change, and crisis in Italy and its modernist art and literature, focusing on the period from the late 1800s through the early 1900s. Offered Yearly.

Repeatable for 9 Credits

ITA 6900 Contemporary Italian Culture Cr. 3

Study of contemporary Italian culture, including literature, film, and other media. Offered Biannually.

Prerequisites: ((ITA 4620))

Repeatable for 9 Credits

ITA 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 7010, FRE 7010, GER 7010, NE 7010, SLA 7010, SPA 7010

ITA 7996 Research Project Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

ITA 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

JPN - JAPANESE STUDIES

JPN 1010 Elementary Japanese I Cr. 4

Introduction to written and spoken Japanese. Offered Every Term.

Course Material Fees: \$5

JPN 1020 Elementary Japanese II Cr. 4

Continuation of JPN 1010. Offered Every Term.

Course Material Fees: \$5

JPN 2010 Intermediate Japanese I Cr. 4

Continuation of JPN 1020. Focus on language and Japanese culture. Offered Every Term.

Prerequisites: ([JPN 1020 with a minimum grade of D-])

Course Material Fees: \$5

JPN 2020 Intermediate Japanese II Cr. 4

Continuation of JPN 2010. Language and culture learned through situational activities with tasks to develop language proficiency. Enhancement of Kanji (ideograph writing system) learning to help students develop higher reading proficiency. Offered Winter.

Prerequisites: ([JPN 2010 with a minimum grade of C-])

Course Material Fees: \$5

JPN 2110 Listening Japanese with Media and Animation Cr. 3

Development of listening skills using Japanese media, animation, and movies. Offered Irregularly.

Prerequisites: ([JPN 1020 with a minimum grade of D-])

JPN 2710 Japanese Culture Cr. 3

Survey of Japanese culture from its beginning to the present day. Japanese thought, religion, art, society, literature, films. Offered Fall.

JPN 2800 Culture Studies in Japan (Homestay and Study Abroad Tour) Cr. 3

Survey of Japanese culture taught in English. Introduction of family and group organization, customs, pop culture (fashion/music/films), aspects of daily lives (thought/religion/arts/society), and a brief modern history. Also, survival language practice. Offered Spring/Summer.

Prerequisites: ([JPN 1010 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: ASN 2800

JPN 3010 Advanced Japanese I Cr. 3

Introduction to high intermediate grammar. Three thematic units: body and health; life and careers; communication and media. Emphasis on communication for business. Offered Yearly.

Prerequisites: ([JPN 2020 with a minimum grade of D-])

JPN 3020 Advanced Japanese II Cr. 3

Introduction to language pertinent to media communication, using written, visual, and/or audio materials. Offered Yearly.

Prerequisites: ([JPN 3010 with a minimum grade of D-])

JPN 3030 Japanese Reading and Writing Cr. 3

Various writing styles. Emphasis on expanding the vocabulary and Kanji characters. Offered Yearly.

Prerequisites: ([JPN 3010 with a minimum grade of D-])

JPN 3540 Intensive Japanese Cr. 4-6

Introduction to the linguistic patterns, sound system, and writing system of the Japanese language. Offered Fall, Winter.

Repeatable for 12 Credits

JPN 3990 Directed Study Cr. 1-6

Directed study tailored to student and faculty interests and specializations. Offered Every Term.

Repeatable for 6 Credits

JPN 4010 Business Japanese I Cr. 3

Expansion of vocabulary and grammar knowledge especially used for business settings. Acquisition of business language and etiquette, role-playing of conversation patterns, reading business memos and documents. Classes are all task-oriented for business. (Basic.) Offered Yearly.

Prerequisites: ([JPN 3020 with a minimum grade of D-])

JPN 4030 Modernity in Japanese Literature Cr. 3

Japanese modernity explored through readings in Japanese literature in English translation. No knowledge of Japanese is required. Offered Yearly.

JPN 4550 Japanese Culture and Society I Cr. 4

Examination of significant social institutions and cultural aspects of modern Japanese society, including their historical development. Offered Fall.

JPN 4560 Japanese Culture and Society II Cr. 4

Significant social institutions and cultural aspects of modern Japanese society, including their historical development. Offered Winter.

JPN 4850 Studies in Japanese Culture Cr. 4

Selected topics, themes, subjects on modern Japanese society, to be announced in Schedule of Classes. Offered Fall, Winter.

Repeatable for 8 Credits

JPN 5220 Languages of Asia Cr. 3

Introduction to major language families in Asia; grammar, sounds, language contacts. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHI 5220, LIN 5100

KHS - KINESIOLOGY, HEALTH AND SPORT STUDIES

KHS 5900 Research Methods in KHS Cr. 3-4

Research proposal preparation, including literature review, hypothesis construction, research design, and computer-aided data analysis. Application of skills to critical reading of primary sources. Offered Fall, Winter.

KHS 6540 Workshop in Kinesiology, Health and Sport Studies Cr. 1-3

Exploration of topics of current interest for the profession. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

Repeatable for 12 Credits

KHS 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. Offered Fall.

KHS 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. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

KHS 7990 Special Problems in KHS Cr. 1-3

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

KHS 7999 Master's Essay and Project Direction Cr. 3

Development and review of essay or project. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

KHS 8540 Theories of Health Behavior Cr. 3

Overview of select social and behavioral theories used to understand health-related behaviors and develop interventions. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

KHS 8700 Research in the Psychosocial Aspects of Physical Activity Cr. 3

Development of in-depth understanding of psychosocial aspects of research in physical activity (exercise, sport, leisure activity). Offered Winter.

Restriction(s): Enrollment limited to students with a class of Doctorate; enrollment is limited to students with a major in Kinesiology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

KHS 8999 Master's Thesis Direction Cr. 1-8

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

KHS 9600 Doctoral Seminar in Kinesiology, Health and Sport Studies Cr. 3

Introduction to active programs of research in the field of kinesiology; research presentations and discussion by faculty, guest lecturers and students. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

KHS 9601 Professional Seminar Cr. 1

Critical examination, presentation, and discussion of current interest in kinesiology and health. The emphasis is on interdisciplinary communication and presentation skills. Offered Every Term.

Restriction(s): Enrollment limited to students in a Doctor of Philosophy degree.

Repeatable for 6 Credits

KIN - KINESIOLOGY

KIN 1991 Professional Perspectives in Kinesiology Cr. 3

Overview of academic professional and career perspectives of kinesiology. Introduction of basic concepts and applications of fitness, physical activity, wellness, nutrition and assessment. Offered Fall, Winter.

KIN 2560 Individual Problems in Kinesiology Cr. 1-3

Solving a specific problem under the guidance of the divisional staff. Offered Fall, Winter.

Repeatable for 4 Credits

KIN 3400 Lifespan Growth and Development Cr. 3

Study of change in motor behavior from infancy to older adulthood. Competency in: ability to formulate a developmental perspective, knowledge of changing behavior across life-span, knowledge of factors affecting motor development, ability to apply knowledge in instructional and recreational settings. Offered Every Term.

KIN 3540 Cultural Foundations of Kinesiology Cr. 3

Introduction to cultural competence and cultural issues in physical activity, exercise, sport, and fitness for kinesiology and health care professionals. Offered Every Term.

KIN 3550 Motor Learning and Control Cr. 3

Study of motor skill acquisition and motor control with applications to physical activity. Focus on cognitive processes and neural mechanisms which contribute to motor learning and control. Satisfies General Education program Writing Intensive requirement for kinesiology majors. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

KIN 3580 Biomechanics Cr. 3

Application of knowledge of human physical structure and function in the analysis and appreciation of human movement; theory and practice of human movement analytic techniques. Offered Every Term.

Prerequisites: ([KIN 1991 with a minimum grade of C]) AND ([BIO 2870 with a minimum grade of C]) AND ([STA 1020 with a minimum grade of C]) OR [MAT 1000 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the College of Education.

KIN 5100 Anatomical and Physiological Bases of Physical Activity Cr. 3

Basic anatomical and physiological principles that have direct application to physical activity programming in the K-12 school setting and in community-based physical activity settings. The course will include practical application experiences to illustrate the theoretical knowledge base. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5110 Motor Learning and Development Cr. 3

Principles and practices that affect the learning and development of motor skills from birth to early adulthood. Study of theories of motor development, motor learning, and motor control; motor skill classification and games classification; developmental and motor learning stages; methodological considerations including how to measure and assess motor learning in field-based situations; and professional applications of the motor learning and development in physical education and physical activity programming. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5200 Effective Teaching and Instructional Practices Cr. 3

Effective teaching and instructional practices in physical education and physical activity. Study of the learning process, factors that influence the learning process, effective teaching skills, effective task presentation and content development, and management of and motivation in the learning environment. Research on effective teaching practices, including behavior management, in quality physical education and physical activity programs. Offered Fall.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5210 Movement Education Cr. 3

Advanced study of elementary movement education through and in-depth analysis of Graham's movement skill themes. Study of movement concepts, skill themes, curriculum design, and the implementation of activities in a practical application. Students will also investigate research supporting the inclusion of movement education in quality physical education and physical activity programs. Offered Fall.

Prerequisites: ([KIN 5200 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5220 Sports I Cr. 3

This course is designed for students to learn sports across three categories: tag, invasion, and field games. Students will learn multiple sports from each category and will be able to make extensions to many other sports in that category. In addition to instructional strategies, basic concepts, and planning for effective teaching, students will become familiar with the Sport Education Model and Tactical Games Approach. Offered Winter.

Prerequisites: ([KIN 5200 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5230 Sports II Cr. 3

This course is designed for students to learn sports across two categories: target and net/wall games. Students will learn multiple sports from each category and will be able to make extensions to many other sports in that category. The specific instructional strategies, basic concepts, and planning for effective teaching will be focused and the sport education model will be further developed. Meanwhile, other instructional models for physical education, such as cooperative learning, teaching game for understanding, and teaching personal and social responsibility, will be introduced. Offered Spring/Summer.

Prerequisites: ([KIN 5200 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5240 Fitness Instruction Cr. 3

Introduction to instructing children, youth, adolescents, and young adults in group fitness activities both in a physical activity environment and community setting. Instructional strategies, basic concepts, and planning for teaching group fitness as well as using basic technology to enhance teaching will be taught. Offered Winter.

Prerequisites: ([KIN 5200 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5250 Adventure and Outdoor Pursuits Cr. 3

Instructing youth in adventure activities and outdoor pursuits. Basic principles and concepts behind teaching youth how to be physically active in the outdoors; planning appropriate instructional strategies. Content might include lessons focusing on initiatives and trust activities appropriate for school-aged youth as well rock climbing, hiking, kayaking, and orienteering. Offered Spring/Summer.

Prerequisites: ([KIN 5200 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5260 Aquatic Leadership Cr. 3

Leadership responsibilities in the area of aquatics. Emphasis on a broad range of aquatic experiences and teaching methodologies including swimming and rescue skills necessary to complete certification as an American Red Cross Water Safety Instructor and Lifeguard. The course will also include program development, including programming for individuals with disabilities, risk management, and staff management. Offered Winter.

Prerequisites: ([KIN 5200 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5350 Exercise Science Internship Cr. 2-4

Supervised experience in health and exercise programs with various populations at approved sites. Offered Every Term.

Prerequisite: KIN 6320 with a minimum grade of C and LFA 2330 with a minimum grade of C

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$16

Repeatable for 8 Credits

KIN 5360 Senior Research Project Cr. 1-5

Students conduct scientific research in exercise science; review of literature, data collection, assisting with data transformation, help with formal presentation of written or oral materials of findings from the study. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

Repeatable for 5 Credits

KIN 5400 Adapted Physical Activity Cr. 3

Discussion of historical and contemporary issues in adapted physical activity; instruction on appropriate evidence-based intervention strategies for individuals with varying disabling conditions; techniques for adapting the environmental conditions to improve performance and attending behaviors; and designing, implementing, and evaluating individualized programs of physical activity for individuals with emerging disabilities that face the community. Offered Fall.

Prerequisites: ([KIN 3400 with a minimum grade of D-]) OR [KIN 5110 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the College of Education.

KIN 5410 Methods and Materials: Adapted Aquatics Cr. 3

Teaching methods and materials to meet the needs individuals with special needs through adapted aquatics including water orientation, swim instruction, fitness instruction, facilities and equipment considerations, and research on adapted aquatics. Offered Spring/Summer.

Prerequisite: KIN 5400 with a minimum grade of C

KIN 5420 Disability and Sports Cr. 3

This course will address teaching and coaching of developmental, recreational, and competitive sports across school-based and community-based settings including Paralympic, Special Olympic and deaf sport; and wheelchair and ambulatory sports for various age groups. Offered Winter.

Prerequisite: KIN 5400 with a minimum grade of C

KIN 5425 Assessment and Service Delivery in Adapted Physical Education Cr. 3

This course addresses how to appropriately and accurately select, administer and interpret assessment results for adapted physical education purposes; use assessment results to design and implement effective adapted physical education programs for PK-12 populations of students with disabilities; and participate collaboratively in the individualized education program (IEP) process. Offered Spring/Summer.

Prerequisites: ([KIN 5400 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5430 Leadership Training and Practicum in Adapted Physical Education Cr. 3

Prepares adapted physical education specialists for leadership positions in K-12 adapted physical education programs and community-based adapted physical activity programs. Includes directed fieldwork in adapted physical education as required by the State of Michigan. Offered Winter.

Prerequisite: KIN 5400 with a minimum grade of C and KIN 5410 with a minimum grade of C and KIN 5420 with a minimum grade of C

KIN 5520 Sport Psychology Cr. 3

History, personality, psychology of injury; theories of motivation, arousal, and anxiety; competition and cooperation, feedback, reinforcement and intrinsic motivation. Team dynamics, group cohesion, communication and leadership processes, psychological qualities and skills (such as goal setting, imagery, concentration). Unhealthy sport behaviors, burnout, over-training. Psychology of youth sport; character development. Offered Fall, Winter.

Prerequisites: ([PSY 1010 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the College of Education.

KIN 5523 Physical Activity and Exercise Psychology Cr. 3

Introduction of physical activity and exercise psychology from a multi-theory perspective. Determinants, well-being and interventions in physical activity, physical education and exercise settings will be explored through a broad spectrum. Offered Fall, Winter.

Prerequisites: ([PSY 1010 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the College of Education.

KIN 5530 Technology and Assessment in Kinesiology Cr. 3

Current methods and activities for assessment in physical education and physical activity programming. Course also includes the use of technology in physical education and physical activity programming. Offered Winter.

Prerequisites: ([KIN 5200 with a minimum grade of D-]) AND ([KIN 5210 with a minimum grade of D-]) AND ([KIN 5220 with a minimum grade of D-]) AND ([KIN 5240 with a minimum grade of D-])

KIN 5550 Health and Physical Education for the Elementary School Teacher Cr. 3

Broad content knowledge of developmentally appropriate physical education and health education for children in grades K-6. Offered Every Term.

KIN 5580 Pediat Exrcze Physlgy:Cncpt&Ap Cr. 3

Offered Fall, Spring/Summer.

Prerequisite: BIO 2870 with a minimum grade of C

Restriction(s): Enrollment limited to students in the College of Education.

KIN 5600 Socio-cultural Issues in Physical Activity Cr. 3

Contemporary and historical perspective on socio-cultural and philosophical issues that influence American youth and instruction in a physical activity setting, including race, gender, sexuality, obesity, and urbanization. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

KIN 5770 Physical Activity Leadership Internship Cr. 7

Individually arranged, supervised, educational and professional experience at an approved on-campus or off-campus based internship site. Opportunities to organize and conduct physical activity leadership responsibilities under close supervision. Through this type of exposure, the student will receive practical, on-the-job experience in one or more types of physical activity leadership. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 5780 Student Teaching and Seminar Cr. 10

This course prepares students for initial teaching certification through K-12 student teaching experience and seminars. The regular seminar will cover a variety of issues and topics related to teaching methods and becoming an effective teacher. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

KIN 6100 Methods of Group Exercise Instruction Cr. 2

This course will provide students the opportunity to gain fitness leadership knowledge and ability of how to safely instruct a group exercise class. Offered Every Term.

Prerequisites: ([KIN 3570 with a minimum grade of C])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 6120 Strength and Conditioning Cr. 3

A comprehensive overview of strength and conditioning with an emphasis on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and nutrition, exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for the nationally accredited Certified Strength and Conditioning Specialist (CSCS) certification exam. Offered Winter, Spring/Summer.

Prerequisites: ([KIN 3570 with a minimum grade of C- and KIN 3580 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

KIN 6150 ECG Interpretation Cr. 3

This course provides students with an understanding of ECG and how to interpret static and dynamic ECG strips. It gives the opportunity for students to gain a basic knowledge of ECG and how to recognize normal and abnormal ECGs. Offered Winter, Spring/Summer.

Prerequisites: ([KIN 3570 with a minimum grade of C])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 6160 Pharmacology for the Physical Activity Professional Cr. 3

Provides students with an understanding of the concepts of pharmacology, how drugs work, and different pharmacologic actions and adverse effects that drugs produce. Offered Every Term.

Prerequisites: ([KIN 3570 with a minimum grade of C- and KIN 3580 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

KIN 6210 Physical Activity and Cognition Cr. 3

An overview of physical activity as it relates to cognitive functioning across the lifespan. Exploration of measures of physical activity, neuropsychological test batteries assessing various domains of cognitive functioning. Review studies examining the effect of physical activity on cognition and its underlying mechanisms. Offered Winter.

Prerequisites: ([KHS 5523 with a minimum grade of C])

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment is limited to Graduate or Undergraduate level students.

KIN 6300 Exercise Physiology I Cr. 3

Basic physiological concepts as they relate to exercise and human performance. Practical applications incorporated into the laboratory component. Offered Every Term.

Prerequisites: (1 of MAT 1000, STA 1020) AND ([BIO 2870 with a minimum grade of C] OR [KIN 1991 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the College of Education.

KIN 6310 Exercise Physiology II Cr. 3

Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

Equivalent: PSL 6010, PT 6310

KIN 6320 Fitness Assessment and Exercise Prescription Cr. 3

Physiological principles of physical fitness, including health and fitness appraisal, body composition assessment, and exercise prescription guidelines. Offered Every Term.

Prerequisites: ([BIO 2870 with a minimum grade of C and KIN 3570 with a minimum grade of C] OR [KIN 3570 with a minimum grade of C and KIN 6310 with a minimum grade of C])

KIN 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. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

KIN 7560 Achievement Motivation in Physical Education Cr. 3

Enhancement of understanding of achievement motivation from a multi-theory perspective. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

KIN 7580 Biomechanical Analysis of Motor Activity Cr. 3

Principles and practice in the analysis of human movement. Selected methods of analysis are used in demonstrations and lab experiences. Students complete a biomechanical analysis project on an appropriate human motor skill. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

KIN 8400 Research in Physical Education Cr. 3

Understanding physical education research in the three dominant research traditions of curriculum, teaching, and teacher education. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

KIN 8530 Motor Learning Cr. 3

Examination of research in motor learning and performance. Relation of the nervous system and other physiological mechanisms to motor behavior and other conditions which affect the acquisition of motor skill: perception, motivation, psychology of motor behavior. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

LAS - LATINO/LATINA AND LATIN AMERICAN STUDIES

LAS 1410 Student Success Seminar Cr. 3

Developing academic and leadership skills; self-empowerment. Offered Every Term.

Repeatable for 6 Credits

LAS 1420 Introduction to Interdisciplinary Latino/a Studies Research Cr. 3

Interdisciplinary introduction to the issues, concepts, and debates concerning the study of Latin American and Latino/as in the U.S. Offered Winter.

LAS 1900 History of Colonial Latin America Cr. 3

The Spanish and Portuguese conquests in the Americas; the multi-racial, class and social structures they established as colonies, and the movements for independence, 1492-1822. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 1900

LAS 1910 Latin America from Independence to the Present Cr. 3

Latin America from early nineteenth century to the 1980s. Offered Yearly.

Equivalent: HIS 1910

LAS 2100 Chicano/a Literature and Culture Cr. 3

Examination of Chicano/a literature. Themes and figures in a social and historical context. Offered Biannually.

Equivalent: SPA 2400

LAS 2110 Puerto Rican Literature and Culture Cr. 3

Examination of Puerto Rican literature. Themes and figures in a social and historical context. Offered Biannually.

Equivalent: SPA 2500

LAS 2250 AfroLatino/a History and Culture Cr. 3

Interdisciplinary introduction to the history and culture of AfroLatinos/as in the U.S. from the perspective of the African Diaspora in the Americas. Offered Winter.

Equivalent: AFS 2250

LAS 2410 History of Mexico Cr. 3

Historical development of Mexico and the Mexican people from the Spanish conquest to the present. Interaction of political, social, economic and cultural influences. Offered Yearly.

Equivalent: HIS 2440

LAS 2420 History of Puerto Rico and Cuba Cr. 3

Historical development of Puerto Rico and Cuba from the pre-Columbian period to the present. Interaction of political, social, economic and cultural influences. Offered Irregularly.

LAS 2430 History of Latino/as in the United States Cr. 3

Historical development of people of Hispanic descent in the United States from the early nineteenth century to the present. Cultural conflict, interaction of political, social, and economic forces. Offered Yearly.

Equivalent: HIS 2430

LAS 3510 Mesoamerican Civilization Cr. 3

Survey of the history and characteristics of culture in Mesoamerica prior to colonization, from the Maya and Olmec to the Aztec. Offered Yearly.

Prerequisite: ANT 2100 with a minimum grade of D-

Equivalent: ANT 5510

LAS 3610 Seminar in Latino/a Urban Problems Cr. 3

Historical and current issues in economics, politics, and culture involving the multi-racial and multi-ethnic Latino/a population of the United States. Offered Irregularly.

LAS 3710 Learning About Your Community Through Research Cr. 4

Blend of participatory, in-service, and classroom work to enhance undergraduate research skills by linking social science theories and concepts to hands-on community-based learning opportunities. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: SOC 3710

LAS 3800 Spanish for Heritage Learners Cr. 3

Review of grammar and composition for Spanish heritage learners. Conducted entirely in Spanish. Offered Fall.

Prerequisites: ((SPA 2025 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: SPA 3800

LAS 3990 Directed Study Cr. 1-3

Special topics are addressed by students and faculty. Offered Fall, Winter.

LAS 5231 The Conquest in Latin America Cr. 3

Varying perspectives on European conquests in Latin America. Offered Irregularly.

Equivalent: HIS 5231

LAS 5234 Race in Colonial Latin America Cr. 3

Use of race to organize colonial society in Latin America. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 5234

LAS 5237 The Mexican Revolution Cr. 3

Causes, dynamics, and effects of the Mexican Revolution of 1910-1940. Offered Irregularly.

LAS 5239 Latin American Migration to the United States Cr. 3

Causes, dynamics, and impact of Latin American migration to the United States. Offered Irregularly.

Equivalent: HIS 5239

LAS 5310 Special Topics in Latino/a and Latin American Studies Cr. 3

Selected, specialized and/or topical studies in Latino/a and Latin American studies. Topics to be announced in Schedule of Classes. Offered Fall, Winter.

LAS 5560 Spanish American Cultures and their Traditions Cr. 3

Panorama of Latin American civilization and culture from the pre-Colombian period to the present. Offered Yearly.

Prerequisite: SPA 4610 with a minimum grade of D- or SPA 4620 with a minimum grade of D-

Equivalent: SPA 5560

LAT - LATIN

LAT 1010 Elementary Latin I Cr. 4

Introduction to the grammar, syntax and vocabulary of the language, and introduction to the culture of the ancient Romans. Offered Fall.

Course Material Fees: \$5

LAT 1020 Elementary Latin II Cr. 4

Continuation of LAT 1010, with increasing emphasis on reading ability. Offered Winter.

Prerequisites: ((LAT 1010 with a minimum grade of D-))

Course Material Fees: \$5

LAT 2010 Intermediate Latin Cr. 4

Review of Latin grammar, and readings from selected Roman prose authors such as Cicero and Caesar. Offered Fall.

Prerequisites: ((LAT 1020 with a minimum grade of D-))

Course Material Fees: \$5

LAT 2020 Intermediate Latin II Cr. 4

Introduction to genre; poetic language, meters, sociological and historical context; Catullus, Horace, Ovid, Vergil. Offered Winter.

Prerequisites: ((LAT 2010 with a minimum grade of D-))

Course Material Fees: \$5

LAT 3210 Latin Poetry Cr. 4

Intermediate-level course for reading representative samples of poetry by prominent Latin authors. Offered Fall.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

Repeatable for 12 Credits

LAT 3220 Latin Prose Cr. 4

Intermediate-level course for reading representative samples of prose by Latin authors. Offered Winter.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

Repeatable for 12 Credits

LAT 5000 Latin for Graduate Students Cr. 1-4

Basic grammar and vocabulary of Latin; leads to reading of continuous passages of poetry and prose in Latin. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

LAT 5300 Readings in Roman History and Culture Cr. 1-3

Readings in Latin primary sources that are relevant to the associated CLA course (which is taught in English). Offered Every Term.

Prerequisites: (May be taken concurrently: [CLA 5000 with a minimum grade of D-]) AND ((LAT 3000 with a minimum grade of D-))

Repeatable for 6 Credits

LAT 5810 Roman Historians Cr. 4

Selected readings from Tacitus, Livy, Caesar or Sallust illustrating the Roman rhetorical and ethical analysis of republican and imperial history. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 5850 Epic Cr. 4

Readings in Latin of the works of epic poets such as Ennius, Vergil, Lucan, Statius and others. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 5860 Lyric and Elegy Cr. 4

Readings in Latin of lyric and elegiac poetry by authors such as Catullus, Tibullus, Horace, and Propertius. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

LAT 6100 Latin Prose for Learning and Teaching Cr. 3

Online course for future and current teachers of K-12 Latin. The grammar and syntax of Latin prose of the Republican period, through selected readings from authors such as Cato, Cicero, Caesar, Sallust, and Nepos; focus on narrative prose rather than oratory. Composition exercises to reinforce the study of grammar and stylistics. Course covers ways in which teachers can incorporate prose composition into their classes as exercises in fluency, and as a way to teach grammar in order to prepare their students for standardized tests in Latin. Students will prepare and share lesson plans. Web course. Offered for graduate credit only. Offered Spring/Summer.

Prerequisites: (May be taken concurrently: [LAT 3210 with a minimum grade of D-]) AND (May be taken concurrently: [LAT 3220 with a minimum grade of D-]) OR [LAT 3150 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate level students.

LAT 6500 Roman Epistolography Cr. 4

Social, literary, and historical significance of the letters of such writers as Cicero, Pliny and Seneca. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 6820 Roman Rhetoric Cr. 4

Study of Roman rhetorical theory and practice. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 6840 Roman Drama Cr. 4

Study of Roman comedy and tragedy through study of comedies of Plautus or Terence, or tragedies of Seneca. Studies in the early history of Roman drama may include readings in the literary remains of Accius, Pacuvius, and Naevius. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 6890 Roman Satire Cr. 4

Readings in the works of satirists such as of Horace, Persius and Juvenal. Offered Irregularly.

Prerequisites: ((LAT 2020 with a minimum grade of D-))

LAT 7810 Studies in Latin Poetry Cr. 4

Study of a major poet or genre of poetry. Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

LAT 7820 Studies in Latin Prose Cr. 4

Study of a major prose author or prose genre. Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

LAT 7999 Master's Essay Direction Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

LDT - LEARNING DESIGN AND TECHNOLOGY

LDT 2015 Introduction to Learning Design and Technology Cr. 2

Overview of the field of Learning Design and Technology, including career options; academic, practical and professional preparation. Students develop a plan of work for their program. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 3115 Instructional Design Cr. 3

Explores broad conceptions of design including all activities involved in generating intentional change via artifacts and experiences. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Instructional Technology or Learning Design and Technology; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 3125 Evaluation Techniques and Tools Cr. 3

Evaluation techniques and tools for learning design and technology; formative and summative evaluation approaches; selecting appropriate evaluation techniques; designing effective evaluation tools to generate feedback and facilitate improvement. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [IT 3115 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-])

LDT 3135 Practical Project Management Cr. 3

Basic techniques and skills needed to handle projects: goal setting, scheduling, resource management, monitoring and problem solving. people and process fundamentals, software applications.

Prerequisites: (May be taken concurrently: [IT 3115 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-])

LDT 3145 Interactive Course Design Cr. 3

Strategies and techniques for organizing, presenting, assessing and evaluation web-based learning. Includes individual oral and written reports, development of an instructional web site. Offered Yearly.

Prerequisites: (May be taken concurrently: [IT 3115 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

LDT 4125 Learning Design and Technology in a Global World Cr. 3

Principles and practices of learning design and technology within a global context: cultures of twenty-first century business; benefits and constraints of working within a global organization environment. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4135 Presentation and Facilitation Skills Cr. 3

Knowledge and delivery skills for conducting professional presentations in multiple settings; facilitation of small and large group sessions; focus on communication process, audience analysis, research, preparation, selection of content and support materials. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4145 Digital Games for Learning Cr. 3

Design and development of games that are engaging and lead to learning. Students develop a learning game in a studio environment. Offered Yearly.

Prerequisites: (May be taken concurrently: [IT 3115 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4155 Simulations for Learning Cr. 3

Design and development of models and interfaces for simulations, including devices, discrete and continuous models, and branching scenarios. Offered Yearly.

Prerequisites: (May be taken concurrently: [IT 3115 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4165 Digital Video for Learning Cr. 3

Principles of multimedia learning applied to video production for the web or digital media. Offered Yearly.

Prerequisites: (May be taken concurrently: [IT 3115 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4175 Internship in Learning Design and Technology Cr. 4

Supervised training under professionals in organizations; demonstration of design, evaluation, project management, presentation skill, etc., at the professional level. Offered Yearly.

Prerequisites: ([IT 1000 with a minimum grade of D-] OR [LDT 1000 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4185 Capstone Seminar in Learning Design and Technology Cr. 3

Integration of central practices and theories in learning design and technology through application of analysis, design, development, implementation, and evaluation; course deliverable includes a final project report and an electronic portfolio. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4195 Emerging Technologies Cr. 3

Emerging digital technologies and their potential impact on learning in different settings as well as evaluation and implementation of new technologies. Offered Yearly.

LDT 4215 Team Players and Team Work Cr. 3

Challenges of building and leading effective teams; framework for identifying critical roles of team players; developing a team player culture. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4225 Advanced Seminar in Learning Design and Technology Cr. 3

In-depth study for advanced undergraduate students in learning design and technology, covering various topics including instructional design, instructional development protocols, and the applications of learning design and technology in different settings. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4235 Directed Study in Learning Design and Technology Cr. 1-4

Directed study on special topics, supervised on an individual basis and which fall outside the scope of formal courses. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 5140 Producing and Evaluating Technology-Based Instructional Materials Cr. 4

Design and development of instructional materials and media with an emphasis on technology applications integration. Creation and evaluation of instructional media and materials, based on national and state technology standards. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 6360

LDT 5275 Training and Development Cr. 4

Creating, implementing, managing and evaluating effective training and development; strategizing to incorporate adult learning concepts; determining marketing strategies. (Additional requirements apply if elected for graduate credit.) Offered Biannually.

Prerequisites: ([IT 3115 with a minimum grade of D-] OR [IT 6110 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-] OR [LDT 6110 with a minimum grade of D-]) AND ([IT 3125 with a minimum grade of D-] OR [IT 7150 with a minimum grade of D-] OR [LDT 3125 with a minimum grade of D-] OR [LDT 7150 with a minimum grade of D-]) AND ([IT 3135 with a minimum grade of D-] OR [LDT 3135 with a minimum grade of D-])

LDT 5285 Developing Technical Training Cr. 4

Foundations of effective technical training: planning and managing the technical training function; issues in course design and technical training. (Additional requirements apply if elected for graduate credit.) Offered Biannually.

Prerequisites: ([IT 3115 with a minimum grade of D-] OR [IT 6110 with a minimum grade of D-] OR [LDT 3115 with a minimum grade of D-] OR [LDT 6110 with a minimum grade of D-]) AND ([IT 3125 with a minimum grade of D-] OR [IT 7150 with a minimum grade of D-] OR [LDT 3125 with a minimum grade of D-] OR [LDT 7150 with a minimum grade of D-]) AND ([IT 3135 with a minimum grade of D-] OR [LDT 3135 with a minimum grade of D-])

LDT 6135 Technology Applications in School Administration Cr. 2-3

Use of technology tools by school administrators; factors related to leadership and research in technology integration. Also offered online. Offered Fall.

Repeatable for 3 Credits

LDT 6140 Designing Web Tools for the Classroom Cr. 4

Design, development and evaluation of learning experiences using the World Wide Web. Student creates and evaluates learning activities using the Web; creation of personal learning portal. Basics of HTML and common authoring tools. Also offered online. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 6230 Internet in the Classroom Cr. 4

Students use a variety of tools from the read/write web and explore their potential for use in K-12 education. Students also examine the use of online learning in the K-12 classroom. Offered Winter.

Prerequisites: ([IT 6140 with a minimum grade of D-] OR [LDT 6140 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7100 Foundations of Instructional Technology Cr. 3

Introduction to the foundations of instructional technology: intellectual history, careers, job roles, organizations, scholarly literature, requisite technology skills; introduction to course content and initial planning for students' programs. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7105 Micro Analysis Methods Cr. 4

Following a high-level needs assessment, students will apply a variety of analytical methods to define specific solution requirements used during the design phase. Focus will include: job, task, process, content, learner and contextual analysis. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7110 Advanced Instructional Design Tools and Techniques Cr. 4

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. Offered Irregularly.

Prerequisites: ([IT 6110 with a minimum grade of C] OR [LDT 6110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7111 Design Thinking and Knowledge Cr. 4

Exploring broad conceptions of design including all activities involved in generating intentional change via artifacts and experiences; design thinking and knowledge. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 6350

LDT 7115 Understanding the Adult Learner Cr. 4

Analysis of how adults learn: learner readiness, development, motivation. Developmental and learning theories, memory, creativity, experiential learning, and affective learning. Content based primarily on psychology of teaching and learning of adults; secondarily on application to instruction and training. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7130 Facilitation of On-Line Learning Cr. 4

Design, development, implementation, facilitation and evaluation of various learning activities for diverse learners in online contexts, using appropriate learning technologies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7140 Interactive Course Design Cr. 4

Design, development and implementation of web-based courseware. Characteristics, advantages and limitations of the web as an instructional delivery system. Appropriate instructional strategies for the web. Use of contemporary development tools to create engaging, interactive, instructionally-sound web materials; design and development teams create and test a web-based instructional module. Also offered online. Offered Fall, Winter.

Prerequisites: ([IT 6110 with a minimum grade of C] OR [LDT 6110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7150 Evaluation of Learning and Performance Cr. 4

Evaluation of learning and performance interventions. Link to evaluation stakeholders, decision-making, and performance needs; identification of measurable indicators and alignment of methodology. Deriving actionable performance improvement recommendations. Offered Fall, Winter.

Prerequisites: ([IT 6110 with a minimum grade of C] OR [LDT 6110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7180 Message Design for Learning Cr. 4

Analysis and application of principles of perception, message design, and foundation research for publication of print and electronic materials. Includes use of color, shape, typography, and page and screen design principles. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7210 Foundations of Distance Education Cr. 4

Critical review of the theoretical foundations, principles, current status and future directions of distance education. Offered online. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7220 Multimedia for Instruction Cr. 4

Instructional design and development applied to multimedia instruction, such as games for learning. Instructional strategies for higher-order learning, including problem solving. Alternative design and development methodologies. Essential multimedia production tools. Also offered online. Offered Biannually.

Prerequisites: ([IT 6110 with a minimum grade of C] OR [LDT 6110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7230 Advanced Multimedia for Instruction Cr. 4

Advanced topics in multimedia and web-based learning, including topics such as design, planning, production and editing of digital audio and video for use in multimedia websites and CDs/DVDs used for learning. Offered Fall.

Prerequisites: ([IT 7140 with a minimum grade of C] OR [IT 7220 with a minimum grade of C] OR [LDT 7140 with a minimum grade of C] OR [LDT 7220 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

LDT 7310 Learning Management Systems Cr. 4

Design and implementation of systems to support e-learning and traditional delivery. Implementation of traditional courses in a generic LMS; interface of course materials to standards-based management systems, reusable learning objects, standards, and collaborative learning. Also offered online. Offered Fall.

Prerequisites: ([IT 7140 with a minimum grade of C] OR [IT 7220 with a minimum grade of C] OR [LDT 7140 with a minimum grade of C] OR [LDT 7220 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7320 Human Performance Technology Cr. 4

Fundamentals of human performance technology, performances, standards, tools and techniques for the performance improvement consultant; analyzing jobs and tasks; improving individual performance; performance technology and instructional development strategies and tactics for performance improvement, performance support systems, organizational behavior; strategic planning and thinking; general processes; professional practices; human performances interventions of an instructional and non-instructional nature. Also offered online. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

LDT 7850 Needs Assessment and Analysis Cr. 4

Discussion and application of needs assessment and analysis concepts, approaches and procedures across various performance levels (organizational, human, and instructional). Discusses evidence and processes required for performance intervention selection. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7920 Strategic Planning for Training and Organization Improvement Cr. 4

Current organizational issues and new competencies in the training profession, respecting: growth of organizational intellectual capital, resolution of complex performance problems, transformation of organizational culture and engineering of change. Offered Biannually.

Prerequisites: ([IT 7320 with a minimum grade of C] OR [LDT 7320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7940 Capstone Course in Learning Design and Technology Cr. 4

Capstone course for the Learning Design and Technology program. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 7980 Capstone Seminar in Learning Technologies Cr. 4

Capstone seminar for advanced students in Learning Technologies track. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 8100 Background, Issues and Trends in Instructional Technology Cr. 4

History of instructional technology practice and intellectual foundations; implication for current issues. Factors likely to affect the future of the field, including contributions of key leaders. Electronic communication techniques used to explore issues with others in the field. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

LDT 8110 Advanced Instructional Design Theory and Research Cr. 4

Analysis of theoretical foundations of instructional design and their application in design practice. Current design research and theory, future directions in design theory and practice. Offered Winter.

Prerequisites: ([IT 6110 with a minimum grade of C] OR [LDT 6110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 8120 Practicum in Instructional Technology Cr. 1-9

Students design, develop, use, and evaluate instructional systems and subsystems in an educational, business, industrial, or human services setting. Offered Fall, Winter.

Prerequisites: ([IT 6110 with a minimum grade of C] OR [LDT 6110 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

LDT 8130 Individual Projects in Instructional Technology Cr. 1-6

Students develop instructional technology material packages and devices through individual design and production. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

LDT 8135 Technology Applications in Central Administration Cr. 3

Use of technology tools and data by central administrators; factors related to central office leadership and research in technology integration. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Education.

LDT 8180 Readings in Instructional Technology Cr. 1-6

Individually-paced course: investigation of recent research studies and theoretical essays in the field. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

LDT 8320 Performance Consulting and Analysis Cr. 4

Practical application of principles of performance consulting to solve problems in large and small organizations. Topics include: role of performance consultant, identifying business needs, assessing performance, contracting techniques, managing the performance improvement process. Also offered online. Offered Winter.

Prerequisites: ([IT 7320 with a minimum grade of C] OR [LDT 7320 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

LDT 8500 Strategies for Teaching in Higher Education Cr. 3

Teaching in higher or adult education; topics may include: course design, writing tests, presentation skills, leading discussions, use of technology including course management systems. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

LDT 9105 Conducting Research in Learning Design and Technology Cr. 4

Design, execution, and reporting of research in learning design and technology. Students should complete most of the course work for the learning design and technology program before registering for this course. Offered Fall.

Prerequisites: ([EER 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

LDT 9110 Advanced Research Seminar and Practicum Cr. 4

Course designed for advanced doctoral students in Learning Design and Technology; however it is also appropriate for students in other disciplines. Students should have completed almost all of their coursework in their major, and preferably also their work in EER. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

LED - LANGUAGE EDUCATION

LED 5300 Teaching Chinese as a Second Language Cr. 1-3

Introduction to basic teaching grammar and sound rules and general teaching methodology. Offered Winter.

Prerequisite: CHI 3100

Equivalent: CHI 5300

LED 5820 Teaching Foreign Languages: Productive Skills Cr. 3

Current research on acquisition of speaking and writing skills in a foreign language. Difference between productive and receptive language use; how various methods of foreign language teaching treat the instruction of productive skills. Offered Biannually.

Prerequisite: LED 5850

Equivalent: LGL 5820

LED 5850 Assessment in the Foreign Language Classroom Cr. 3

Theoretical basis of second language teaching models; historical overview of methodologies; current trends in teaching of reading, writing, listening, speaking, and culture. Implications of methodology on materials, classroom techniques, and assessment. Offered Biannually.

Equivalent: LGL 5850

LED 6500 Teaching World Languages in Elementary and Middle Schools: Methods III Cr. 3

Approaches and techniques; review of theory and practice relevant to young learners. Students teach mini-lessons and prepare materials based on national standards and age-appropriate methodologies. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

LED 6510 Second Language Acquisition and the Teaching of Grammar Cr. 3

Seminar and intensive review of major models of applied sociolinguistics and psycholinguistics; second language acquisition research and teaching of grammar in K-12 education. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

LED 6520 Teaching English as a Second Language/Foreign Language: Methods I Cr. 3

Methods and techniques; fundamental theory and practice; English as an international/intranational language. Students micro-teach lessons and prepare teaching materials which emphasize the listening and speaking language skills. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

LED 6530 Teaching English as a Second Language/Foreign Language: Methods II Cr. 2-3

Methods and techniques; English as an international/intranational language. Students micro-teach lessons and prepare teaching materials which emphasize the reading and writing language skills. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

LED 6555 Integration of Language and Content in Language Teaching Cr. 1-3

Examination and evaluation of instructional strategies used to teach content and develop a second language in specific content/language area instruction. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

Repeatable for 3 Credits

LED 6565 Assessment in Language Teaching Cr. 1-3

Instruments, techniques, and strategies in the assessment, placement, and evaluation of second language instruction, including language learners in K-12 and post-secondary education. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

Repeatable for 3 Credits

LED 6580 Culture as the Basis for Language Teaching Cr. 2-4

Culture examined in a multidisciplinary theoretical framework, to provide students with objective relativistic and holistic attitude about human diversity, enabling them to relate to pupils in urban areas. Offered Biannually.

Repeatable for 4 Credits

LED 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

LED 7240 Advanced Seminar in Language Teaching Cr. 2-4

Development, production, and evaluation of innovative techniques for first and second language teaching. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

LEX - LAW

LEX 6100 Civil Procedure A Cr. 3

Structure of the judicial system in the United States and the process of civil litigation from the commencement of an action through appeal. Subjects considered include jurisdiction, the relationship between state and federal courts, pleading, discovery and other pre-trial devices, trial and appellate review. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6101 Civil Procedure B Cr. 3

Structure of the judicial system in the United States and the process of civil litigation from the commencement of an action through appeal. Continuation of LEX 6100. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6200 Contracts A Cr. 3

General principles of the law of contracts; definitions of contract; illegality, mistake, frustration, the parol evidence rule; performance and breach; rescission; repudiation and discharge. Remedies, including damages, specific performance, injunction and restitution. All topics considered from viewpoints of both common law and statute. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6201 Contracts B Cr. 3

General principles of the law of contracts; definitions of contract; illegality, mistake, frustration, the parol evidence rule; performance and breach; rescission; repudiation and discharge. Remedies, including damages, specific performance, injunction and restitution. All topics considered from viewpoints of both common law and statute. Continuation of LEX 6200. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6300 Criminal Law Cr. 3

General doctrines of criminal liability as they relate to the moral and social problems of crime; definitions of principal crimes and defenses to criminal prosecution, both common law and statutory; limitations on the use of criminal sanctions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6400 Legal Research and Writing Cr. 2

Analysis of legal problems and the use of legal materials, through discussion, written assignments, and personal conferences. Preparation of 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6500 Property Cr. 4

Basic course in real property, which will include selected materials from some of the following areas: historical introduction to real property; personal property transfers by gift, finding, adverse possession; modern law of possessory estates, including non-freehold estates, and landlord and tenant relationships; concurrent estates; restraints upon the use of land; conveyancing and effects of the Recording Acts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6600 Torts Cr. 4

Legal principles underlying wrongs not based on contract, arising from intentional or negligent conduct and including strict liability; the nature of particular wrongs, including injuries to the person, to reputation, to real or personal property, and to interference with business or family relations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6700 Constitutional Law I Cr. 3

Problems arising under the Constitution of the United States, with particular attention to the nature of judicial review in constitutional cases and to the role of the judiciary in umpiring the federal system. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6800 Professional Responsibility and the Legal Profession Cr. 2

Conflicts of interest; the attorney's standard of care, fiduciary duty, the organization of bar associations, the attorney's duty to the court and the community; the attorney's responsibilities in trial, and in unilateral actions and negotiations. The duty of disclosure of adverse data, the development of group legal services, and of legal services to the poor, and the responsibility of the Bar in these areas. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6900 The Regulatory State Cr. 3

Introduction to statutes and agency decisions and the central role they play in modern government. Nature of statutes and agency regulations, how they are generated, and how they are interpreted and applied. Justifications for modern regulation, the modern administrative state, the incentives that influence the behavior of the various actors, and the legal rules that help structure the relationships among legislatures, agencies and courts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7001 Accounting for Lawyers Cr. 2

Basic concepts of bookkeeping and generally-accepted accounting principles; background to help read and interpret financial statements; auditor's role and accounting issues that arise in business planning, in litigation, and in managing financial investments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7006 Administrative Law Cr. 3-4

Functions and behavior of administrative agencies; constitutional and statutory constraints on agency operation. Government formulating and enforcing policy, administering of public benefit programs, and awarding of licenses. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7009 Advanced Bankruptcy Cr. 3

Students will become familiar with the chapter 11 business reorganization process. By reviewing mock bankruptcy schedules, and cash collateral, relief from stay, and chapter 11 plan and disclosure statement proceedings, the students will develop the necessary substantive knowledge and hone their negotiation and trial advocacy skills. A problem-oriented approach will be used, with students and instructors participating in resolving situations commonly encountered in a business bankruptcy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7011 Agency and Partnership Cr. 2-3

The relationship of principal and agent; the rights, duties, powers, and fiduciary responsibilities associated with acting for the benefit of others. The legal principles associated with conducting business in the partnership form under the Uniform Partnership Act. When offered in a three-credit version, class will also include extensive treatment of Limited Liability Companies and Limited Liability Partnerships and other alternative forms of unincorporated business associations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7014 Taxation of Corporations: Acquisitions and Restructuring Cr. 4

Satisfies the professional skills requirement. Explores the tax rules for corporate stock or asset acquisitions and restructurings (including reorgs, spins and loss carryovers), and S corporations or consolidated returns through the lens of a simulated firm tax group working on a series of client projects (using an actor as client). Each student will work on at least two team projects during the semester, preparing written and oral presentations for, and briefing the client on, issues related to the team project topic. Team projects include: prepping a client for and negotiating an acquisition, drafting a private letter ruling request, preparing an internal memorandum outlining the pros and cons of restructuring choices, researching and writing a tax opinion letter, and outlining advantages of various entity choices for future transactions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7015 Advanced Torts Cr. 2

Focus on torts not involving physical injury, such as misrepresentation, defamation, invasion of privacy, interference with business relations, and misuse of legal procedure. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7016 Alternative Dispute Resolution Cr. 2

Forms of non-trial dispute resolution: arbitration, mediation, and negotiation—their various permutations and substantive applications. Factors affecting choice between dispute resolution processes, differences in design and structure, relative costs, quality of participant performance, accountability for results, privacy of proceedings, role of legal norms and lawyers, due process considerations, availability of judicial review; tactics and strategies employed in arbitration, mediation and negotiation. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7021 American Indian Law Cr. 3

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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7023 Animal Law Cr. 3

Animal law encompasses human-animal interactions and evaluation of competing interests within the context of traditional areas of law (e.g., veterinary malpractice, expansion of anti-cruelty statutes to include farm animals, damage for death of / injury to companion animals, disputes over custody of companion animals in divorce or separation, landlord-tenant housing disputes, the inclusion of animals in wills and trusts, and constitutional issues such as standing). It also encompasses the current legal status of animals as living property and explores whether this status is antiquated and needs re-evaluation to reflect societal beliefs and values. Course will consider these traditional areas of law, groundbreaking laws enacted by other countries, as well as theories for the expansion of consideration and rights.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7026 Antitrust Cr. 2-4

Government control of trade practices and industrial market structures which inhibit the competitive process; monopoly, oligopoly, mergers, cartel practices, distribution arrangements, resale price control, franchising patent licensing, foreign commerce and price discrimination under the Sherman, Clayton, Federal Trade Commission, and Robinson-Patman Acts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7045 Banking Law Cr. 2

Legal environment of the banking industry. Topics include: history and scope of banking in the United States, statutory requirements for chartering and operating banks, regulatory oversight at the Federal and State level, commercial and consumer lending, deposit insurance, lender liability, bank failures, and recent developments in banking regulation and legislation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7051 Bankruptcy and Creditors' Rights Cr. 3

Problems arising when debtors are in financial difficulty, including the principal state remedies of unsecured creditors such as attachment, garnishment, and enforcement of judgments; Chapter 7 bankruptcy liquidations; Chapter 13 wage-earner plans; and Chapter 11 reorganizations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7058 Bioethics and the Law Cr. 3

Role of law in shaping, analyzing and resolving conflicts that arise in the interplay between medicine, biotechnology, ethics, social history, and cultural evolution. Topics include reproductive rights and genetic technologies, maternal fetal decision making, medical decision making, definitions of death, death and dying decisions, regulation of research on humans, interdisciplinary decision making, and access to health care. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7060 Business Planning Cr. 4

Problems involving common business transactions, including choice of entity to conduct business; organization, financing, and operation of a corporation; restructuring of business enterprises. Corporate, tax, securities law, and financial matters; role of business lawyer in counseling and planning business transactions. Relationship between the corporation and its shareholders. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7061 Business Planning: A Transactional Approach Cr. 4-8

Organizational problems for the closely-held and the public corporation; operational problems such as stock distributions, issuance of new securities, constructive dividend problems, and stock redemptions; corporate acquisitions, other reorganizations, contested take-overs, and liquidation and termination problems. Credit only on completion of two terms. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7075 Child, Family, and State Cr. 3

Aspects of children in legal system. Legal relationship between children, their parents, and government (federal, state, local, and tribal); rights of these parties and relationships between them. Education, medical care, children's rights, concept of legal parenthood, parental rights (and termination thereof), adoption, juvenile justice process. Concentration on constitutional and policy analysis as opposed to examination of rules and regulations in the different areas. Students graded on class participation, several short written assignments, and take-home final examination. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7118 Complex Litigation Cr. 2

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-party litigation, multi-district litigation, and mass tort cases. Examination of theory and practice of class actions and complex litigation. Class participation, production of filing-quality pleadings, and successful completion of a final exam are expected. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7121 Conflict of Laws Cr. 3

Principles, rules and methods thought to underlie the resolution of multi-state problems. Jurisdiction and enforcement of judgments of other states. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7126 Constitutional Law II Cr. 4

Individual rights under the Constitution of the United States. Freedom of speech, religious freedom and equal protection. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: LEX 7829

LEX 7127 Constitutional Litigation Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7128 Consumer Law Cr. 2-3

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. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7136 Copyright Law Cr. 3

Law of copyright and related doctrines protecting literary, musical and artistic works. Nature of rights and kinds of works protected, doctrine of fair use, pre-emption problems, and problems posed by new technologies. Emphasis on 1976 Copyright Act and its relation to issues such as home videotaping, photocopying and non-profit performance of protected works. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7141 Corporate Finance Cr. 3

Economic and legal problems arising in connection with financing decisions of publicly-held corporations, including valuation of the enterprise and its securities, determination of securities structure and dividend policy, capital structure (including problems relating to debt), and acquisition strategies. Federal securities regulations and selected topics. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7156 Corporations Cr. 2-4

Relationships between owners and directors of a corporate enterprise; different types of stock ownership and the corresponding rights in profits and control; consolidation and merger; distinctive features of the closed corporation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7160 Criminal Pretrial Advocacy Cr. 3

The court rules, statutes and Constitutional principles implicated in pre-trial criminal advocacy. Topics include arraignment, discovery, pre-preliminary examination, preliminary examination, motion practice, and pleas. Structural rules and principles of the process; the practical application of those rules and principles. Students participate in mock arguments, client meetings, and witness interviews, and draft the documents that would be filed in a criminal case. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7161 Criminal Procedure: Investigation Cr. 3

Constitutional requirements for arrests, searches, seizures, electronic surveillance, and interrogations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7166 Criminal Procedure: Adjudication Cr. 3

Operation of the criminal justice system from the defendant's first appearance in the court through the trial, and to post-conviction remedies, including a study of bail, the preliminary hearing, the grand jury, voir dire, discovery, double jeopardy, joinder, and habeas corpus. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7172 Developing the Commercial Real Estate Project Cr. 3

Real estate development: laws and requirements affecting the development of commercial properties, including the law of contracts; real estate interests, such as mortgages, easements and encumbrances, zoning laws, environmental laws, building codes and requirements and other regulatory laws. Topics include: purchase and sale contracts, title and survey matters, due diligence investigations, closing processes, construction, financing, and leasing. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7201 Education Law Cr. 3

Survey of education law with emphasis on public education. Historical development of education law in the U.S. as well as topics of current interest: tenure, academic freedom, school discipline, school financing, home-based schooling, state regulation of private schools, church-state relationships, and desegregation in public education. Offered Irregularly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7205 Employee Benefits Law Cr. 3

Survey course provides students with a strong grounding in the major laws affecting employment-based benefits plans, including the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Code. Retirement plans (including traditional defined benefit plans and common types of defined contribution plans such as 401 (k) plans). and welfare benefit plans (including health and life insurances and disability plans). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7216 Employment Discrimination Cr. 2-3

Federal constitutional and statutory guarantees of freedom from invidious discrimination in employment. Thirteenth and Fourteenth Amendments, Title VII of the Civil Rights Act of 1964, the Reconstruction Civil Rights Acts, 42 U.S.C. 1881, et seq., the Equal Pay Act of 1963, and the Age Discrimination in Employment Act of 1967. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7221 Employment Law Cr. 2-3

Legal rights and responsibilities of employees (excluding rights provided by anti-discrimination laws and the NLRA); statutory and common-law limitations on the employer's right to discharge; protection of employee privacy and reputation; laws governing wages and hours, occupational safety, unemployment compensation, workers' compensation, and employee benefits. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7226 Entertainment Law Cr. 2-3

Legal and business issues in the entertainment industries, including those related to sound recordings, music publishing, literary publishing, films, television, the Internet and other new media. Readings and discussions: representing talent, drafting and negotiating contracts, remedies for breaches, and rights of publicity. How the entertainment industries and their economics work. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7228 Energy Law Cr. 3

Introduction to energy law and regulation in the United States. Principles of rate regulation of public utilities and the division of jurisdiction between federal and state governments. Emerging trends such as promotion of energy efficiency and renewable energy. (This course does not cover traditional oil and gas law.) Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7231 Environmental Law Cr. 2-3

Environmental law in common-law, statutes, constitutional issues, administrative and international law. Coherent legal analysis of environmental problems and active legal remedies, rather than specialized instruction in pollution controls and the like. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7236 Equitable Remedies Cr. 2-3

Survey of the equitable remedies available for the vindication of substantive rights, which includes injunctive and restitutionary relief as well as the general treatment of equitable relief in contract, tort and criminal actions. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7241 Estate, Gift and Inheritance Taxation Cr. 2

Federal and state transfer taxes and income taxation of fiduciaries and beneficiaries. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7266 Evidence Cr. 2-4

General principles relating to the proof of questions of fact in civil and criminal trials, including competency, relevancy, and materiality of evidence; judicial notice, presumptions; burden of proof; competency of witnesses, rules relating to examination and cross-examination of witnesses; weight and sufficiency of evidence. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7301 Family Law Cr. 2-3

Entry into marriage; legal treatment of couples in marital and non-marital relationships; divorce, including custody, alimony and property distribution, and the role of the attorney; procreation; illegitimacy; rights and responsibilities of children and parents with respect to each other and to the state; child abuse and neglect; and adoption. When offered for two credits, considerably less time is devoted to children's issues. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7306 Federal Courts and the Federal System Cr. 2-3

Interrelationship of state and federal law in our legal system from the point of view of the federal courts and the Congress. Emphasis on the politics, history, and philosophy of federalism, rather than on procedures. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7311 Taxation of Partnerships Cr. 2-3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7326 Foreign Direct Investment Cr. 3

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 the protection of FDI. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7353 Health Care Organizations and Finance Cr. 3

Legal responses to problems of health care costs, access and financing from both public and private perspectives. Registration of insurance and managed care, developments in federal ERISA preemption, changing business structures, and antitrust enforcement. Medicare and Medicaid financing, rules prohibiting self-referrals, and standards policing fraud and abuse. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7354 Health Care Quality, Licensing and Liability Cr. 3

Legal responses to problems of health care quality and medical errors. State licensing of health care professionals and institutions, self-regulation, and tort liability for physicians, hospitals and managed care organizations. Basic introduction to health care institutions, the particulars of malpractice litigation, and proposals for tort reform. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7360 Health Policy: The Firm, the Market and the Law Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7371 Immigration and Nationality Law Cr. 2-3

Immigration, its history and development; entry into the United States, and alien status and adjustment to status; deportation and relief from deportation; exclusion and relief from exclusion; nationality and citizenship. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7381 Insurance Law Cr. 2

General principles, including indemnity, subrogation, reinsurance, insurable interest and classification of risks such as personal business and legal liability. Michigan insurance law and "no fault" legislation examined; contractual rights and liabilities of the insurer, insured, and third party beneficiaries. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7384 International Commercial Arbitration Cr. 3

Course follows the life cycle of an international commercial arbitration, including: drafting and enforcing arbitration agreements; appointment and challenge of arbitrators; conduct of the proceedings; drafting of awards; review and enforcement of awards by courts at the seat of arbitration and beyond. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7401 International Aspects of US Taxation Cr. 2-3

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7404 International Business Transactions Cr. 3

Practical legal problems connected with doing business abroad; counseling on foreign law. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7406 International Finance: Transactions, Regulation, and Policy Cr. 3

Legal problems associated with flow of capital across national borders. Topics include international financial transactions, regulation of international capital markets, regulation of international banking and financial services, emerging market debt crisis, role of International Monetary Fund, reform of international financial system. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7407 International Intellectual Property Law Cr. 3

Addresses the legal issues surrounding the protection of intellectual property rights in a globalized commercial environment. The course centers on the study of the principal multilateral treaties that protect intellectual property rights: the Berne Convention on copyrights, the Paris Convention on trademarks and patents, and the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS"). The course also looks at the intellectual property component of the North American Free Trade Agreement, and a variety of legislative materials from the European Union. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7408 International Law Cr. 3

Basic legal concepts applied by international tribunals and courts of the United States to the relations between independent nations. The nature and sources of international law; the use of treaties; international organizations; and practices respecting recognition, territory, nationality and jurisdiction. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7409 International Litigation Cr. 3

Issues arising in civil cases in American courts in which international parties, evidence, and issues are present. Subjects include personal jurisdiction, service of process abroad, conducting discovery abroad, suing foreign sovereigns and governmental officials, forum non conveniens and international arbitration. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7410 International Organizations and Public Health Cr. 3

Course has two objectives: first, to give students a working understanding of the structure, function, and mission of the international organizations that increasingly impact modern life: the WTO, EHO, World Bank, IMF, and UN; second, to explore the effects of globalization on public health. Topics include: WHO control of infectious diseases such as SARS, impact of the WTO on pharmaceutical pricing of AIDS drugs and genetically-modified foods, international conventions for tobacco control, and influence of World Bank and IMF privatization requirements on health sector reform in developing countries. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate, Law or Medical level students; enrollment limited to students in the Law School or School of Medicine.

LEX 7411 International Protection of Human Rights Cr. 2-3

The main international and regional legal instruments and procedures for the protection of human rights. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7413 International Prosecution of State Actors Cr. 3

Legal and political aspects of new processes by which one-time state officials (such as former Yugoslav President Slobodan Milosevic, former Chilean dictator Augusto Pinochet, and former East German leader Egon Krenz) and their followers have been subjected to prosecution in international and foreign legal systems. Basic elements of transnational criminal law; controversial questions of principle and policy such as United States opposition to the new International Criminal Court; concerns about retroactive punishment; respect for amnesties that have contributed to ending civil conflicts. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7414 International Legal Research Cr. 1

Fundamentals of research in public international law. In connection with Jessup International Law Moot Court Competition, students review structure of international legal institutions, nature of the materials they produce, and the unique way these materials are indexed and cataloged. Focus on how these materials can best be used in legal advocacy; emphasis on effective writing and oral argument. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 7418 International Trade Law Cr. 3

Regulation of international trade relations. Focus on Law of the World Trade Organization (WTO) and its interaction with domestic regulation of international commerce. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7419 Interviewing and Counseling Cr. 2-3

This course introduces students to interviewing and counseling theory, and helps students develop skills needed to effectively and efficiently interview and counsel clients in both litigation and transactional matters. Topics addressed and skills developed include active listening, phrasing and sequencing questions, eliciting timelines, probing for details, clarifying objectives, identifying options and discussing their consequences, and helping clients make final decisions. The course makes extensive use of role-playing exercises. Each student conducts a full-length simulated interview at mid-semester, and a full-length simulated counseling session towards the end of the semester. When offered for three credits, the course will include a forty-hour fieldwork component in which each student will interview and counsel actual clients who are seeking free legal help from one of the Law School's clinics or from a faculty-approved public interest externship field placement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7422 Islamic Law Cr. 3

This course will survey the universe of Islamic law from the vantage point of a beginner to the field. The readings and class discussions will broadly cover the following: (1) classical Islamic jurisprudential theory, (2) substantive aspects of family and criminal law, (3) the intersection of Islamic law and the American legal system, and (4) the place of American-Muslims in the framework of American constitutionalism. Because law - of any variety - does not operate in a vacuum, discussions will proceed with reflection on prevailing sociopolitical realities such as global terrorism, jihadist movements, Islamophobia, misogyny, and racism. The student will also be asked to draw from the offerings of philosophy, critical race theory, postcolonial studies, security studies, and feminism. The aim is for course participants to develop a more textured understanding of Islamic law and to be better positioned to understand the debates surrounding its relevance and practice. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7424 Introduction to the Legal System of the United States Cr. 2-3

General introduction to the institutions and processes involved in lawmaking and legal interpretation in the United States, with a focus on lawmaking at the federal level. Topics include: federal legislative process, precedent and the common-law method, federal administrative rule-making, separation of powers, and judicial review. Sources of law produced by these processes and the development of research strategies with respect to these sources. Course is also designed to provide foreign LL.M students (all of whom write a Master's Essay to complete the LL.M. program) with an overview of the principal forms of legal scholarship in the American academy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7426 Jurisprudence Cr. 2-3

Analysis of important legal notions such as law, sanction, rule, and sovereignty; relations between law and morals as seen particularly in the development of natural law and legal positivism and in the development of the notion of legal responsibility. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7435 Juvenile Delinquency Cr. 2

Introduction to the juvenile justice system. Topics include: juvenile court jurisdiction over delinquents and status offenders; pretrial criminal procedure in the juvenile justice context; screening and diversion; pretrial detention; waiver of juvenile court jurisdiction; procedural rights at trial; dispositional decisions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7495 Labor Arbitration Cr. 2

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7501 Labor Law Cr. 2-4

Legislative, administrative and judicial regulation of labor relations. The scope of national labor legislation; the protection of the rights of self-organization and the designation of bargaining agents; the negotiation and administration of the collective agreement; the legality of strikes, picketing and boycotts; employer interference with concerted activities; and the relations between unions and their members. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7506 Labor Law in the Public Sector Cr. 2

State (and some federal) regulation of labor relations in the public sector. Establishment of representative status, negotiation and administration of the collective agreement, strikes and impasse resolutions. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7511 Land Use Cr. 2-3

Allocation of land use in the urban environment by both private agreement and governmental order. Problems involved in the development and effectuation of community planning; goals by means of conservation, clearance, and renewal; zoning, variances and exceptions; housing code enforcement, subdivision control, eminent domain; relocation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7514 Law, Authority, and Resistance Cr. 3

This course addresses, in both theoretical and practical terms, the relationship between legal and political obligation: When, if ever, do individuals have a moral obligation to obey the law because it is the law? What count as valid justifications of civil disobedience, conscientious refusal, or insurrection? When can governmental authority justifiably depart from "the rule of law"? When can individuals be held criminally accountable for egregious acts committed under unjust prior regimes? The course combines classics of the history of political thought with contemporary theoretical writings and contemporary discussions of topical questions (e.g., jury nullification, emergency measures, transitional justice). Particular attention will be paid to the special obligations of lawyers who are asked to validate immoral practices (e.g., "enhanced interrogation methods" in the Global War on Terrorism). Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7516 Law of Elections and Political Organizations Cr. 2-3

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7517 Law, Policy and International Development Cr. 3

Explores various law-based strategies for achieving economic and political development in poor countries. One influential school of thought claims that capitalism will not flourish in developing nations until there is a long-term, national commitment to reform property laws. Other scholars and development specialists insist that instituting the rule of law is the linchpin to attaining international development. Yet others insist that all law reform efforts are pointless unless access-to-justice issues are first addressed. This course is designed to investigate these claims and allow each student to come to her or his own conclusions about how law is most effectively used as a strategy for promoting political and economic development. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7518 Law of Armed Conflict Cr. 3

History and current state of the law governing recourse to force (*jus ad bellum*) and the law governing the application of force (*jus in bello*). Contemporary *jus ad bellum* topics include: prohibition of the use of force in international relations, self-defense, unilateral intervention in internal conflicts and humanitarian crises, as well as collective action relating to security and humanitarian crises. Contemporary *jus in bello* topics include: legal obligations relating to targeting, selection of weapons, status and treatment of prisoners, and protection of civilians during hostilities and occupation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7520 Advanced Legal Writing: Legal Drafting Cr. 3

Development of transactional drafting skills; focus on writing techniques most often assigned to summer interns and first and second year associates. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7536 Appellate Advocacy Cr. 3

Research and analysis of complex legal problems. Class discussion on advanced research, development of strategy, and organization and writing as an advocate. Students learn appellate procedure and write an appellate brief. May not be taken on pass/no credit basis. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7541 Legislation Cr. 3

The legislative process and its use as an instrument of change; legislative drafting revision, interpretation and implementation. The appropriations process; role of and control of lobbying; operation of the legislative process and its effect on policy formulation; conduct of Congressional investigations and effects of separation of powers doctrines. The lawyer and the development and implementation of legislation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7581 Local Government Law Cr. 2

Law as an instrument for governing urban areas. Distribution of decision-making power between private and public persons, between state and local governments and among various local governments. Local finance, decentralization, annexation and municipal incorporation. Exploration of possible reform by means of metropolitan government or federal assistance. The lawyer's role in formulating governmental policy in major urban complexes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7590 Maastricht Exchange Program Cr. 1-4

Students take courses offered in the Maastricht Exchange Program. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7603 Mergers and Acquisitions Cr. 2-3

Mechanics of an acquisition, including: (1) state corporate codes relevant to acquisitions, dissenting shareholder remedies, listing requirements, and federal security law affecting the mechanics (proxy, tender offers, public offerings); (2) successor liability, transfers of assets; (3) acquisition documents (confidentiality agreements, letters of intent, basic agreements, closing); (4) legal duties of board of directors and dominant shareholders (decision to sell or acquire, conflicts of interest, attempts to block takeovers, shareholder value); (5) disclosure requirements of federal and state securities law; (6) accounting and tax issues (definition of tax-free reorganization, accounting for mergers and acquisitions). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7604 Mock Trial Workshop Cr. 2

This course introduces students to basic evidence concepts (e.g. relevance, competency, impeachment, hearsay, authentication) and helps student develop basic trial advocacy skills (e.g. how to develop persuasive case theories and themes, how to deliver opening statements and closing arguments, how to examine and cross-examine witnesses, how to lay a proper evidentiary foundation for testimony, how to introduce and use demonstrative evidence, how to refresh a witness's recollection, how to impeach a witness by using the witness's prior statements, how to make and respond to objections). The course consists of two skill-building workshops: a 4-day workshop offered during the week before upper-level classes begin in the fall, and a 2-day workshop offered over a weekend during the fall semester. The teaching format will include lecture, discussion of problems, demonstration and discussion of skills, and extensive simulation work in small groups. The course is graded on an Honors-Pass-Low Pass-No Credit basis. Students who have taken Trial Advocacy (LEX 7836) are not eligible to take this course, and vice versa. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students.

Equivalent: LEX 7836

LEX 7605 Multistate Taxation in the Digital Age Cr. 3

Sale and use taxes and corporate and personal income taxes imposed by state and other sub-national governments, including Indian tribes. Constitutional limits on cross-border taxation under the Due Process Clause and the Commerce Clause. Methods for apportioning income among jurisdictions, from theoretical and practical perspectives. Special income tax and sales tax issues arising from electronic commerce. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7616 Negotiation Cr. 2,3

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. Taken for three credits this course also addresses contract drafting, collaborative lawyering, use of mediation in negotiation, multicultural negotiation, the law of settlement, enhanced processing of simulations, and contract drafting exercises. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7631 No-Fault Insurance Law Cr. 2

Comprehensive review of Michigan's No-Fault Automobile Insurance Law, which governs all motor vehicle accidents in the State. Topics include: questions of coverage, medical and work loss benefits, coordination of benefits, exclusions, priorities, subrogation, and claims procedures. Negligence claims under the No-Fault Law also reviewed. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7646 Patent Application Preparation Cr. 2-3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7651 Patent Enforcement Cr. 3

Unique aspects of patent litigation. Policy issues; practice considerations in enforcing patents. Issues in approaching a patent infringement suit (who can file; when and where to file). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7656 Patent Law Cr. 3

Substantive patent and related trade secret law. Emphasis on nature of patent right; scope of coverage of patent system; issues of validity, infringements, inequitable conduct, patent-antitrust. Special issues relating to software, living organisms, and chemistry. Technical background not required. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7657 Patent Prosecution Cr. 2-3

Art of writing patent applications; aspects of practicing before the Patent and Trademark Office (PTO). Rules and techniques for investigating what is legally considered the background of the invention (prior art). Introduction to basic claim drafting concepts, techniques for writing a written description (or specification) of an invention. Effective response to PTO actions as defined by the Manual of Patent Examining Procedure (MPEP) and by the relevant case law. Inter partes post-grant proceedings and derivation proceedings available under the new America Invents Act. Ethics and licensing will be briefly covered. Course provides a good foundation for students who wish to take and pass the patent bar exam to become registered to practice before the PTO. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7659 Political Theory of Public Law Cr. 3

Legal restraints on exercise of public power as conceived in works of early modern theorists (e.g., Machiavelli, Locke, Montesquieu, and Madison), and as applied in constitutional arrangements that have emerged in a range of historical settings. Topics include: role of law in totalitarian political systems; emergency rule; comparative approaches to judicial review. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: PS 7580

LEX 7660 Practicum in Dispute Resolution Cr. 3

Training in facilitative mediation with opportunity to practice skills in a variety of settings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

Course Material Fees: \$225

Equivalent: DR 7310

LEX 7661 Commercial Systems Cr. 2

Capstone course for contracts/commercial curriculum; creation, transfer and enforcement of obligations, mostly in payment, transport and storage settings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7666 Pretrial Advocacy Cr. 3

Adversary strategy and practice skills in the pretrial stages of litigation. Preparation of pleadings, interrogatories, requests for admission and document production requests. Students negotiate settlement of disputes, draft and argue motions, and take and defend depositions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7669 Privacy Law Cr. 2-3

Covers the law of information privacy. Addresses the law and policy applying to the collection, use and disclosure of personal information. Relevant law includes state laws founded in tort and property, federal laws addressing specific privacy issues and constitutional limitations on government. Topics may include use of personal information by the media, government surveillance aimed at combating terrorism, the privacy of health care information, the collection and use of personal information by businesses, privacy in schools and at the workplace and international privacy issues. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7676 Public Finance Law Cr. 2

Legal principles involved in public finance transactions: municipal borrowing and debt; state law considerations: sources of authority for borrowing and repayment; effect of ultra vires borrowing, of procedural defects, municipal debt limitations, and other factors relating to power to incur municipal debt; traditional financing techniques; federal tax and securities law considerations; default and municipal bankruptcy; municipal bond market. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7680 Public Health Law Cr. 3

Legal foundations of American public health system; struggle between individual liberties and governmental interest in providing for collective health and well-being of citizens. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7686 Race and the Law Cr. 3

Impact of law on race relations and vice versa. Topics include: history and legal history, civil rights and equal protection, criminal law, affirmative action, employment, hate speech, education, interracial marriage and adoption, housing discrimination, emergence of Critical Race Theory in contemporary jurisprudence. Contemporary issues and solutions illuminated by historical problems and developments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7689 Race, the Law and Social Change in Southeast Michigan Cr. 2-3

Detroit is the most segregated metropolitan area in the country.

Course examines role and limits of law in addressing issues of race, discrimination and equality in southeastern Michigan. From a legal and anthropological perspective, students study the efforts attorneys have made over the past century to create a region more consistent with American values of inclusiveness. Individual and class action lawsuits and other forms of policy advocacy, all addressing legal problems in southeast Michigan, examining litigation tactics and the role of expert testimony. History and social problems of the region examined from the perspective of the courtroom. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7701 Real Estate Financing Cr. 2-3

Methods of financing the acquisition and improvement of residential and commercial real estate through the use of private sources of funds. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7725 Religious Liberty in the United States Cr. 3

Relationship between church and state in the United States. First Amendment Free Exercise and Establishment Clauses; related state and federal statutes; matters of history, legal doctrine, and public policy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7751 Advanced Sales and Leases under the UCC Cr. 2-3

Advanced study in sales areas beyond first-year contracts course. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7756 Secured Transactions Cr. 3

Basic study of Article 9 of the Uniform Commercial Code with particular attention to the law governing the creation and perfection of security interests in personal property and the relative priorities of interested parties; also attention to some of the following: goods-oriented remedies in Article 2, financing leases in Article 2a, bulk sales, effects of the Bankruptcy Code on secured transactions, and documents of title Article 7. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7761 Securities Regulation Cr. 2-3

Analysis of current problems in federal and state regulation of transactions in securities. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7766 Sports and the Law Cr. 2-3

Survey of legal issues presented by sports in America. Application of basic principles of antitrust and labor law, constitutional law, administrative law, contract law and tort law to sports. Regulation of professional sports labor markets, regulation of agent representation, sports franchises, leagues and the powers of commissioner's offices, and the regulation of intercollegiate sports. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7771 State and Local Taxation Cr. 3

Sales and use taxes and corporate and personal income taxes imposed by states and other subnational governments, including Indian tribes. Extensive treatment is given to the constitutional limitations on cross-border taxation under the Due Process Clause and Commerce Clause. Methods for apportioning income among jurisdictions are covered from a theoretical perspective. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7800 State Constitutionalism Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7806 Tax-Exempt Organizations Cr. 2

Examines tax problems arising from activities of non-profit associations of a type usually subject to taxation. Offered Biannually.

Prerequisite: LEX 7771

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7816 Taxation Cr. 1-4

Interrelation between income tax policy and basic governmental and social institutions. Introduction to law of federal income taxation; the taxation of individuals. Basic application of these taxes; problems involved in transactions and situations which confront the lawyer in general practice; analysis and use of materials which permit their solution. Underlying problems of policy which have led to the tax law of today and which may be expected to require change in the tax law of tomorrow. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7821 Taxation of Corporations Cr. 4

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7826 Teaching Law in High School Cr. 3

Students teach 20 sessions to high school students and attend seminar on teaching methods. Preparation of model lessons, lesson plans. Field supervision. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7827 Topics in Advanced Legal Research Cr. 2

Covers complex research topics essential to successful legal practice and scholarship and builds upon the basic research skills and techniques learned in the required Legal Research and Writing course (LEX 6400). Its problem-solving approach gives students practical research experience that will enhance their ability to use legal, archival and social science information persuasively and cost-effectively. The scope is primarily limited to researching United States federal and state law. Offered Spring/Summer.

Prerequisite: LEX 6400

LEX 7828 Law of Electronic Commerce Cr. 3

New legal and policy issues that arise when businesses and consumers use the Internet to conduct their commercial transactions. Broad range of subject matters, such as history and technology of the Internet, regulatory paradigms, trademarks, copyright, jurisdiction over online disputes, spam and other online intrusions, clickwrap and browsewrap contracting, liability of online intermediaries, privacy, taxation of Internet commerce, and consumer protection. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7829 Law of the First Amendment: Freedom of Speech Cr. 2

In-depth coverage of the First Amendment guarantee of freedom of speech, press, association and petition. Emphasis on the "law of the First Amendment" as it has developed through the decisions of the Supreme Court; how the "law of the First Amendment" operates in the context of actual litigation. First Amendment issues likely to arise in the United States today and tomorrow. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: LEX 7126

LEX 7831 Trademarks and Unfair Competition Cr. 2-3

Federal trademark statute, 15 U.S.C. section 1051 et. seq., state statutory and common law unfair competition, and the federal law of unfair competition and false advertising under 15 U.S.C. section 1125 (a). Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7836 Trial Advocacy Cr. 3

Basic trial techniques taught through student performances of role-play exercises followed by critique. Mastering major trial skills in isolation: direct and cross examination, introduction of exhibits, impeachment, expert witnesses, opening and closing statements. Application of skills in simulated full criminal or civil jury trial. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: LEX 7604

LEX 7841 Trusts and Decedents' Estates Cr. 4

Intestate succession, wills and trusts, requisite elements of wills and express trusts, and procedural requirements for their creation; administration of decedents' estates and trusts; special rules relating to charitable and spendthrift trusts; trust forms as equitable remedial devices under resulting and constructive trust rules. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7888 United States Foreign Relations Law Cr. 4

Constitutional and statutory doctrines that regulate the conduct of U.S. foreign relations. Topics include: distribution of foreign affairs powers between the three branches of government, status of international law in U.S. courts, scope of the treaty power, validity of executive agreements, preemption of state foreign affairs activities, and the political question and other doctrines regulating judicial review in foreign affairs cases; political influences on and policy effects of legal doctrines in this field. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Equivalent: PS 6870

LEX 7931 Water Law Cr. 2-3

Categories of water bodies and public and private rights therein under the riparian and the prior appropriation systems. Consumptive and non-consumptive uses, management, and protection of the resource. Intergovernmental relations with respect to water resource allocation and management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7941 White Collar Crime Cr. 3

Substantive and investigative issues related to federal prosecution of business crimes. Balance between government powers to investigate white collar crime and the rights of corporate and individual investigatory targets in connection with criminal prosecutions of federal economic crimes. Problems related to parallel civil enforcement actions involving the same underlying conduct. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7951 Workers' Compensation Law I Cr. 2

Overview of Michigan statute; discussion of "arising out of" and "in the course of employment," including the going to and from work doctrine. Analysis of the occupational disease provisions of the statute as compared to single event personal injury provisions. Study of specific loss. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7990 Directed Study Cr. 1-2

A directed study may involve writing a paper, participating in a regularly-scheduled course for reduced credit, or other work of an academic nature. Subject matter and procedure are to be arranged prior to registration. Directed studies may not be elected on a pass-no credit basis. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7995 Law Practicum Research Cr. 1

Students enrolled in the Law Practicum Research participate in an employment experience directly related to their academic studies and concurrently consult with a supervising member of the full-time Law School faculty. An enrolled student must submit written work to the supervising faculty member that relates the employment experience to the student's academic studies and that includes consideration of the roles and responsibilities of practicing attorneys and strategic and ethical issues in the applicable field of law. Offered Every Term.

LEX 7999 Special Topics Cr. 2-4

Areas of current interest in the law. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8001 Antitrust and Trade Regulation: Current Issues Seminar Cr. 3

Addresses current topics in antitrust and trade regulation, providing a mix of substantive knowledge and professional skills instruction. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8002 Access to Justice Seminar Cr. 3

History, policies, practices and laws that demonstrate how our legal system addresses access to justice for people with economic needs or other restrictions that prevent them from using the system effectively. Seminar examines issues in both the criminal and civil areas. How lawyers are uniquely suited to improve access to justice. Career options to enhance access to justice, such as: following a public interest career, performing pro bono legal service for the poor, and exercising leadership in government and elsewhere to bring changes that enhance access to justice for all. Lectures, readings, research, site visits, and guest speakers. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8003 Reimagining Development in Detroit: Institutions, Law and Society Cr. 3

Seminar course. Examination of contemporary problems of community development from a perspective of institutional economics; how tools and theories of institutional economics are applied to problems relevant to the City of Detroit. Students write research papers applying these tools to issues such as race and regionalism, role of faith-based organizations in community development, abandoned land and community gardens, structure of local governance, charter schools and the fate of public schools, opportunity-based housing, and state of health-care safety net providers. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8010 Ancient Greek and Roman Law Cr. 3

Legal systems of ancient Greece and Rome. The law of Athens during its classical period in fifth and fourth centuries B.C.E.; development of Roman law during Republican period and the Empire, as transmitted through the compilations of Justinian in the sixth century C.E. Students write a paper on a subject related to the course material (this paper will satisfy the Law School writing requirement). Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8015 Asian Pacific American History and the Law : Perspectives on APA Civil Rights and Civil Wrongs Cr. 3

This seminar explores the Asian Pacific American civil rights movement with an overview of how federal and state laws have affected the Asian Pacific American (APA) experience and presence in the United States, covering a variety of civil rights cases and civil wrongs against APAs. The seminar will cover the APA historical timeline, exclusion laws, alien land laws, World War II internment of Japanese Americans, affirmative action as it applies to APAs, civil rights and racial hate crime violence, APAs in the marriage equality movement, bilingual issues in education and in the workplace, post-9/11 issues, immigration law reform, the Hawaiian sovereignty movement, and the effort to change birthright citizenship and immigration laws, among other topics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8029 Citizenship Seminar Cr. 3

Legal understanding of citizenship. How has the concept of citizenship evolved over time? How do we (or should we) decide who is and is not a citizen in the U.S. and in other nations? If one is a citizen, what rights flow from that status? Completion of this seminar satisfies the Law School writing requirement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8031 Commercial Law Seminar Cr. 3

Advanced study of an area of commercial law; assigned readings. Final grade based on paper and seminar discussion leadership, on topic selected by student from instructor's list. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8037 Consumerism&Democracy Cr. 3

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8039 Contract Drafting Seminar Cr. 3

Knowledge and skills necessary for sound drafting of agreements. Substantive issues of contract law and important drafting issues. Students draft several contracts for review and critique; final grade based on drafting and editing as well as participation in seminar meetings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8044 Advanced Topics in Criminal Law and Procedure Cr. 3

Focuses on the law governing, practice of, and debate about plea bargaining. Among the questions to be considered: Does plea bargaining serve society well? Is it on firm constitutional footing? What are the constitutional prerequisites for a valid guilty plea? Does plea bargaining work differently in state court and in federal court? In white collar cases and street crime cases? In high-level cases and low-level cases? What legal or extra-legal factors determine the outcome of a plea bargain? And finally, how does pervasive plea bargaining affect the role of the prosecutor, the defense lawyer, and the trial judge? This seminar can be used to complete the upper-level writing requirement. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8048 Current Topics in International Law Cr. 3

Focus on new and controversial issues; topics change with each offering. Readings, class discussions, and paper. How international institutions function, justification for the norms they seek to enforce, and coherence of those norms with respect to theories of international society. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8049 Civil Rights Trip Seminar Cr. 2

introduction to the Civil Rights Movement of the 1950s and 1960s, as well as how lawyers at preeminent civil rights organizations continue the work today. Enrolled students travel to Atlanta, Selma, Montgomery, and Birmingham over spring break; meet with prominent civil rights attorneys; visit the legal, spiritual, and political landmarks of the Civil Rights Movement; meet survivors and activists from the movement, who provide them with first-hand accounts of the Selma to Montgomery March, the maneuverings of segregationist and progressive political figures in Montgomery, and daily life during the Jim Crow and civil rights eras. Students prepare for the trip with several hours of direct instruction prior to spring break, a compendium of readings, documentary films, and group discussion on the 14th Amendment, Jim Crow, the Civil Rights Movement, critical race theory, narratives of African-American migration, white privilege, structural racism, implicit bias, and how legislation and enforcement intersect with each of these topics. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8051 Detroit Equity Action Lab: A Collaborative Study of Structural Racism Seminar Cr. 3

This Seminar introduces students to notions of structural racism as it impacts the city of Detroit. Students will work collaboratively with members of the Detroit Equity Action Lab (DEAL) addressing racial equity in a wide range of sectors, such as civil rights, transportation, community development, health, education and housing. Students will develop awareness of the role and limits of law in addressing structural racism. In addition to examining the work of individual organizations, students will consider broader issues impacting racial equity and will explore interventions that might change public policy and public awareness as it relates to structural racism. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8067 Effective Oral Communication for Lawyers Cr. 3

Exercise-based seminar to help students become more familiar with, and more skillful at, oral communication in the various settings familiar to a lawyer. Topics include: physiology of speech and sources of speech pathology; aspects of non-verbal communication; use of humor; stage fright; making communication interesting. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8068 Energy Law: Current Topics Cr. 3

In-depth exploration of a particular topic regarding regulation of energy production or consumption. Topics may include: regulation of fuel sources and emissions in the U.S. transportation sector, incentives and regulations in financing clean energy investments, and the impact of regulation on adoption of electric vehicles. Students are responsible for a research paper and presentation to the class. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8075 Ethics of the Lawyering Experience Seminar Cr. 3

Psychological and ethical dimensions of law and legal practice, explored through engagement with works of fiction and selected legal scholarship. Student writes weekly reaction paper. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8081 Evidence Law: Advanced Topics Cr. 3

Seminar course; students write papers and give presentations on current topics of evidence law. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8101 Family Violence: Seminar Cr. 3

Analysis of the utilization of the legal system to address issues of abuse within the family. Topics include: the response of the criminal justice system to various forms of family violence, such as marital rape, spouse abuse, and child abuse; use of tort and injunctive remedies; examination of new and proposed legislation relevant to these issues. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8141 International Environmental Law Seminar Cr. 3

Students explore use of bilateral and multilateral treaties and other international mechanisms for dealing with international environmental problems; emphasis on United States - Canada international environmental law. In-class presentations, paper required. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8161 International and Comparative Business Law: Doing Business in China Seminar Cr. 3

Preparation of papers and presentations on various aspects of business in China. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8171 Health Law: Advanced Topics Cr. 3

Examines current legal issues related to health, such as applications of the law within and outside the health care system; contemporary debates on role of government and private sector in health; innovative proposals to use law, ethics and policy to improve health; and the role of law during public health emergencies. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8190 International Women's Human Rights Seminar Cr. 3

Evolution of women's rights as human rights. Students will examine women's human rights in the context of legal instruments such as the UN Convention to Eliminate Discrimination Against Women (CEDAW) and other international treaties, and in the jurisprudence of women's human rights in international tribunals. This course will also explore the role of global and regional human rights organizations in securing women's legal rights and analyze the current legal discourse on women's human rights and explore key issues in the light of specific world regions, cultures and religious traditions. Offered Fall.

LEX 8241 Advanced Topics in Work Law Cr. 3

Examines current and developing issues in labor and employment law. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8248 Law and Literature Seminar Cr. 3

Connection between law and literature. Topics include: role of narrative in legal arguments and legal decision-making; role of narrative and law, respectively, in constructing identity; literary criticisms of the law and legal profession. Focus on stories of adoption, including: shifting definitions of parenthood; nature vs. nurture debate; issues of class, race, gender, and national identity. Novels, short stories, films, memoirs, and legal cases; authors include Charles Dickens, George Eliot, P.D. James, and Louise Erdrich. In-class presentations; paper required. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8256 Law in Cyberspace: Seminar Cr. 3

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8260 Law of the City: Detroit: Seminar Cr. 3

Exploration of legal, economic, and policy issues regarding the contemporary American city, using Detroit as the case study. Themes covered include race, class, positive rights, community organization and identity, economics, public education, environmental justice and legal pluralism. Students read in constitutional and statutory provisions, case law, administrative determinations, academic writing, and current popular media. Discussion of a different aspect of urban law each week; students explore a broad array of legal issues and opportunities in the urban environment around them; current law and policy reforms; research paper and presentation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8263 Legal Change Seminar Cr. 3

What is the relationship between law and social change? How effective are changes in legal doctrine in changing social practices? Under what conditions can we effectively use the law to promote social change? This course investigates these questions by studying the relationships among social movements, courts, legislatures, and other international and domestic institutions. Students will examine materials from actual legal reform movements, including equality in education and women's rights, and evaluate strategies for legal reform and their impact on statutory and decisional law as well as social practices. Offered Biannually.

LEX 8271 National Labor Relations Act: Current Problems Cr. 3

Legal issues pending before the National Labor Relations Board and in the courts. Students act in place of NLRB and render opinions on critical labor law issues; read actual briefs in pending cases, discuss the cases, and vote on disposition and draft majority and dissenting opinions. Each student writes one majority and one concurring or dissenting opinion. Class discussions focus on NLRB decision-making process and judicial review of Board decisions; and on draft opinions of student Board panels. Grade is based on class participation as well as written work; students may elect to write papers based on legal issues discussed in class. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8280 National Security Law Seminar Cr. 3

National security as area of specialization within government law practice, private law practice, and academia. Aspects of international law, constitutional law, criminal law, administrative law, and other fields as they apply to issues such as: Who formulates and implements the national security policies of the United States? When do the nation's security interests trump competing values (civil liberties, transparency, fulfillment of the nation's international legal obligations)? In what respects is America's approach to these issues similar to or different from that of other countries? Readings include statutes, treaties, regulations, case law, and extensive secondary literature, which serve as a basis for a substantial research paper or law journal note. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8300 Race and the Law: Advanced Topics Cr. 3

In-depth examination of particular issues; topics may include: emerging issues in education, voting rights and criminal justice; intersection of race and sports law; or race and the media. Focus may be related to Michigan or the metropolitan Detroit area. In-class presentations, research paper. Completion of this course will satisfy Law School writing requirement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8335 Regulation of Vice Cr. 3

Seminar exploring legal, economic, and policy issues regarding federal, state, and local regulation of vice, including: alcohol nicotine, drugs, gambling, and commercial sex. The current legal landscape; potential policy reforms. Students prepare a research paper on a mutually agreed upon topic, which may include a specific regulation or vice law, proposed policy reform, comparative analysis from another jurisdiction, and state/local issues. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8345 Sex, Sexuality and the Law in the Contemporary United States Cr. 3

The ways the law constructs people as sexual beings and regulates that being and her/his sexuality. Seminar course has four main objectives: 1) to deepen understanding of contemporary U.S. laws that address sex and sexuality; 2) to understand the ways in which individuals and groups are impacted by those laws; 3) to learn and apply aspects of critical legal theories in legal analysis; and 4) to strengthen written and oral legal analysis and communication. Workshop format; class contribution makes up a significant portion of the grade. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8351 Sports and Inequality Cr. 3

This seminar will examine the legal and social implications of various forms of discrimination in both the professional and amateur sports contexts. Coverage will include a discussion of legal efforts to address discrimination in sports based on race, gender, disability, and sexual orientation. Topics include racial inequalities on the playing fields and in the front offices of amateur and professional sports, the impact of NCAA eligibility criteria, the effects and future of Title IX, gender segregation and exclusion in professional sports and sexual violence, sexual orientation discrimination in sports, and sports opportunities for people with disabilities. The final paper for this class may be used to satisfy the upper-level writing requirement. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8361 Tax Plcy: Crnt Issus Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8363 Tax Policy Seminar: Role and Impact of Congressional Oversight on Abusive Tax Strategies Cr. 3

This seminar will examine the international tax rules, the abusive strategies, and the responses by Congress and foreign governments. We will use excerpts from Congressional hearings to explore the role of Congressional oversight in identifying the noncompliance with existing laws, the role of foreign governments in facilitating abuses and illegal behavior, and the need for legislative or administrative action to address some of the abuses. We will consider policy options to reduce the incentives for businesses to pursue these strategies. We will examine professional ethics and the role of lawyers and other professionals in structuring these abusive transactions. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8401 Urban Housing and Community Development: Seminar Cr. 3
Legal, social, and economic aspects of urban housing and community development, including local, state and national programs and policies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8505 Criminal Justice Externship Practicum Cr. 2

Students perform 150 hours of unpaid work in a criminal prosecutor or defender's office. Students are assigned tasks similar to those performed by entry-level prosecutors and defenders. Students develop advocacy skills, legal drafting skills, law practice management skills, the ability to recognize and resolve strategic and ethical dilemmas, and the ability to learn from experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8506 Criminal Justice Externship: Colloquium Cr. 2

Roles and responsibilities of criminal prosecutors and defenders, the judicial process in criminal cases, and strategic and ethical issues in criminal prosecution and defense. Substantial class time is devoted to professional skills instruction and to facilitated discussion and analysis of students' fieldwork observations and experiences. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8507 Judicial Externship: Practicum Cr. 2

Students perform 150 hours of unpaid work in judicial chambers. Students are assigned tasks similar to those performed by judicial clerks. Students develop research, writing, and analysis skills, legal drafting skills, oral communication skills, law practice management skills, and the ability to learn from experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8508 Judicial Externship: Colloquium Cr. 2

Students learn about the roles and responsibilities of judges and judicial clerks, judicial decision-making, and effective advocacy. Substantial class time is devoted to professional skills instruction and to facilitated discussion and analysis of students' fieldwork observations and experiences. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8515 Corporate Counsel Externship: Practicum Cr. 2

Students perform 150 hours of unpaid work in corporate counsel offices of non-profit and for-profit entities for two credits. Students are assigned tasks similar to those performed by attorneys in corporate counsel or general counsel offices. The Practicum is an opportunity for students to develop professional skills, including legal analysis and reasoning, contract drafting, problem solving, communication, teamwork, negotiation, and fact-finding. Students will also learn about important workplace issues such as time management, corporate culture, professionalism, and giving and receiving feedback. Grading will be on an Honors, Pass, Low Pass, No Credit basis. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8516 Corporate Counsel Externship: Colloquium Cr. 2

Students will learn about substantive issues encountered in an in-house legal department and the ethical responsibilities of in-house counsel. Substantial class time is devoted to professional skills instruction on topics such as working with outside counsel, conflicts management, contract drafting, and conducting internal investigations. Students will also participate in facilitated discussion and analysis of their fieldwork observations and experiences. Chief legal officers, general counsel, and senior managing attorneys will guest lecture in some classes. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8595 Advanced Externship Cr. 2

A two-credit, letter-graded course for students who will complete a second externship at a different field placement in the same substantive area or at a different division of the same location of their prior placement. Students will complete 150 hours of work at an approved field placement, submit reflective memoranda as assigned, and meet with the Director of Clinical Education, or other designated Faculty Supervisor, at least three times during the semester. Approval will only be granted in the rare circumstances where a student's learning objectives differ significantly from those for the first externship and these learning objectives cannot be met by existing clinical or experiential learning course opportunities. Application process required. Offered Every Term.

Prerequisites: ([LEX 8506] OR [LEX 8508] OR [LEX 8516] OR [LEX 8599])

Restriction(s): Enrollment is limited to Law level students.

LEX 8598 Public Interest Externship: Practicum Cr. 2

Students perform 150 hours of unpaid work in public interest settings. Students are assigned tasks similar to those performed by entry-level public interest lawyers. Students develop interviewing and counseling skills, legal drafting skills, oral communication skills, law practice management skills, and the ability to learn from experience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8599 Public Interest Externship: Colloquium Cr. 2

Students learn about the roles and responsibilities of public interest lawyers, strategic, practical, and ethical dimensions of public interest practice, and effective advocacy. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8601 Criminal Appellate Practice Clinic Cr. 4

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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8604 Asylum and Immigration Law Clinic Cr. 6

Lawyering skills and values needed to effectively represent clients, and the legal skills and knowledge needed to represent clients seeking asylum or other immigration benefits, including an Immigration Court hearing. Asylum case simulation. Professional responsibility issues. In clinical component, students represent clients on a variety of immigration matters. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8606 Asylum and Immigration Law Clinic (Advanced) Cr. 2

Students continue to gain increased experience in different settings and issues, and may also organize and participate in community outreach projects. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8607 Civil Rights and Civil Liberties Clinic Cr. 4

Collaborative venture with American Civil Liberties Union (ACLU) of Michigan; opportunity to litigate civil rights and civil liberties impact cases before state and federal courts. Classroom component includes a semester-long simulation of a civil rights case that gives students opportunity to develop professional skills such as interviewing, counseling, drafting pleadings and discovery requests, taking depositions, preparing and arguing motions, and negotiating with opposing counsel. Offered Winter.

Prerequisites: (May be taken concurrently: [LEX 6800 with a minimum grade of C]) AND (May be taken concurrently: [LEX 7266 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 8 Credits

LEX 8610 Transnational Environmental Law Clinic (Advanced) Cr. 2

Students continue their work with the Environmental Law Clinic, gaining increased experience in different settings on issues; students work with Great Lakes Environmental Law Center and may be involved in formally representing other community organizations and public interest groups. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8611 Transnational Environmental Law Clinic Cr. 6

Skills and strategies needed to affect environmental policy in the three branches of state and federal government. Classroom sessions include current environmental policy challenges and opportunities; guest speakers. Clinical component includes preparation of policy papers and formal legislative testimony, commenting on rulemaking and permit decisions, and engaging in judicial review and enforcement litigation; students work with Great Lakes Environmental Law Center. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8615 Patent Procurement Clinic Cr. 4

Students represent clients in patent procurement matters before the U.S. Patent and Trademark Office, Detroit satellite office. Student work includes interviewing and counseling clients, fact investigation, performing legal research, conducting prior art searches, and drafting and prosecuting patent applications. Skills and values necessary to effectively represent clients in patent procurement matters; exploration of substantive areas of patent law that arise in these matters. Professional responsibility issues commonly faced by patent attorneys, such as conflicts, competence, and confidentiality. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8616 Patent Procurement Clinic (Advanced) Cr. 2

Students in this clinic represent clients in patent procurement matters before the United States Patent and Trademark Office's Detroit, Michigan, Satellite Office. There is no classroom component in the Advanced Patent Procurement Clinic. Students will be expected to spend between five to ten hours per week continuing work on ongoing cases that have significant deadlines during the semester, gaining increased experience in different settings and addressing more complex issues. Advanced Clinic students will also work with PPC faculty to provide direction and guidance to those enrolled in the PPC Clinic for the first time, in areas in which Advanced Clinic students have already acquired some expertise. Time spent in the Advanced Clinic will include a one-hour weekly meeting with the Clinic's faculty to discuss the status of client matters. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8621 Free Legal Aid Cr. 4

The Free Legal Aid Clinic, Inc. (FLAC) is a student-run, non-profit organization with a board of directors composed entirely of current Wayne Law students. FLAC partners with legal services organizations to provide free legal services to low-income people in Wayne County. FLAC students practice under the supervision of legal aid attorneys and law school faculty pursuant to the Michigan Student Practice Rule. Students, who work an average of 12-14 hours per week, are responsible for all aspects of the cases assigned to them, including interviewing clients, drafting pleadings and other court filings, arguing motions, conducting trials and evidentiary hearings, negotiating with opposing counsel, researching legal issues, and drafting legal documents. Students participate in a twice-weekly seminar class for this letter-graded course. Credits earned meet the experiential learning and clinical education requirements. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8622 Free Legal Aid: Advanced Cr. 2

Students continue to work 12-14 hours per week at FLAC, taking on more complex cases and leadership roles within the organization. Students will meet with faculty on a weekly basis to discuss topics such as law practice management and non-profit management, as well as advanced substantive law topics and skills training. Students may also mentor new students and act as teaching assistants for the basic Free Legal Aid course. Limited enrollment, prior faculty approval required. Offered Every Term.

Restriction(s): Enrollment is limited to Law level students.

LEX 8625 Govt Agency Internship Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8627 In-House Counsel Internship Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8631 Business and Community Law Clinic Cr. 6

Course component: basic provisions of nonprofit corporate law, tax law, and legal ethics that affect community economic development groups. Clinical component: students assist a community group at or near the stage of incorporating itself and/or applying for tax-exempt status, in services such as drafting and filing articles of incorporation, bylaws, and IRS forms. Students complete term paper on topic of interest to community economic development organizations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8633 Business and Community Law Clinic (Advanced) Cr. 2

Participation requires demonstrated commitment to business law, community economic development, or nonprofit law. No classroom component; enrollment limited to two students per semester; students spend between five and ten hours a week continuing their work on ongoing cases and meeting significant deadlines during the semester. Advanced Clinic students also work with BCL faculty to provide direction and guidance to those in the BCL Clinic for the first time, in areas in which Advanced Clinic students have already acquired some expertise; as well as coordinate community outreach and informational programs. Includes one hour per week meeting with BCL faculty to discuss the status of client matters. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8641 Disability Law Clinic Cr. 6

Cooperative venture with Wayne County Legal Services. Hands-on experience while helping individuals with disabilities and their families obtain services and support to avoid out-of-home placement at public expense. Students perform 15-20 hours fieldwork per week. Student responsible for 3 to 5 cases: investigating facts, researching law, counseling client, representing client in administrative or judicial proceedings, drafting and arguing appeals, engaging in settlement negotiations. Intake, case acceptance, individual client representation, community education and law reform efforts. Includes two-hour weekly seminar; graded on honors pass-low pass-no credit basis. Credits count toward 14-credit maximum in applied and skills courses. No credit after LEX 8621. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8642 Disability Law Clinic (Advanced) Cr. 2

Students continue their work on cases or projects begun in the Disability Law Clinic that could not be completed in a single term, work on new cases or projects that involve more complex issues or give students opportunities to develop additional skills, or serve as teaching assistants for the Clinic. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8661 Legal Advocacy for People With Cancer (Clinic) Cr. 4-6

Students work with healthcare professionals at the Karmanos Cancer Center to identify and resolve legal issues that present barriers to patient care and wellbeing. Students advise and assist people with cancer in matters pertaining to health insurance, housing, employee rights and benefits, estate and healthcare planning, and public benefits. They develop skills used in a broad range of practice settings: interviewing and counseling, case-management, problem-solving, persuasive fact analysis, legal drafting, negotiation, effective oral communication, and interdisciplinary collaboration. Ethical issues case analysis; maintaining confidentiality; identifying and managing conflicts of interest; the lawyer-client relationship; decision making authority between lawyer and client. Legal issues that affect people with cancer; interaction between law and health; medical-legal partnership model of legal services delivery; client-centered and holistic approaches. Offered for Law School grading: Honors pass, pass, low pass, no credit. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8662 Legal Advocacy for People with Cancer Clinic (Advanced) Cr. 2

Continuation of work begun in LEX 8661 which could not be completed in a single term; work on new cases or projects that involve more complex issues or give students opportunities to develop additional skills or serve as teaching assistants for the LAPC Clinic. Students are expected to perform at least 100 hours of clinical work, including regular, frequent meetings with the course instructors. Course does not have a classroom component, but students who serve as teaching assistants are expected to participate in some LAPC classes. Students are required to document their clinical work through detailed, contemporaneous time logs. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8701 Law Review Cr. 1-2

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8711 Moot Court Cr. 1-2

Members conduct, under general faculty supervision, the program in the preparation of briefs and the hearings on oral arguments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8721 Mock Trial Cr. 1-2

Members participate in skills training; intraschool, regional, and national trial advocacy competitions. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8731 The Journal of Law in Society Cr. 1

Members contribute to publication of this law journal and the annual symposium. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 4 Credits

LEX 8741 Transactional Law Competition Cr. 1

Practical skills course focused on improving transactional lawyering skills, including drafting agreements, revising agreements, advising clients, and negotiating with transactional attorneys, while exploring important legal/business issues relevant to mergers and acquisitions. During the fall semester, students will participate in an in-house transactional law competition, and during the winter semester, students will participate in the National Transactional LawMeet Competition. Offered Yearly.

Repeatable for 4 Credits

LEX 8815 Fundamentals of US Legal Research Cr. 1

Introduction to U.S. legal research skills for students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8830 Introduction to the Legal System of the United States Cr. 2

Introduction to U.S. legal research skills for students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Law level students; enrollment limited to students in the Law School.

LEX 8875 Survey of United States Law Cr. 3,4

Concise survey of several substantive fields of United States Law (principally in the area of private law) with focus on several core legal topics integral to understanding the U.S. legal system as a whole, and to working with U.S.-trained lawyers. Material drawn from a variety of areas, such as: law of contracts, property, torts, criminal law, and constitutional law. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8890 US Legal Skills for Foreign Law Students Cr. 2

This course will provide foreign-trained lawyers with a working knowledge of the memo-drafting, transactional, and other skills utilized by U.S. Lawyers. Students will draft a legal memorandum, a client letter, and a contract. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in United States Law; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8999 Master's Essay Direction Cr. 1-2

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

Repeatable for 2 Credits

LFA - LIFE FITNESS ACTIVITIES

LFA 1020 Individualized Skills Development Laboratory Cr. 1-2

Offered Fall, Winter.

Repeatable for 4 Credits

LFA 1030 Personal Fitness Sampler Cr. 2

Group exercise combination class that introduces five LFA courses offered in the program: Sculpt, Stretch and Tone; Cardio-Fit Kickboxing; Boot Camp Fitness; Weight Training and Fitness; and Step and Tone. Designed to promote a variety of cardio and resistance training formats. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

LFA 1040 Healthy Lifestyle Basics Cr. 2

A study of healthy eating, physical activity, and other lifestyle strategies to promote healthy living and weight management. Students will examine individual health and wellness, identify healthy behaviors, and develop skills to support a healthy lifestyle. Offered Every Term.

Repeatable for 4 Credits

LFA 1100 Swimming: Elementary Cr. 2

Fundamental skills and knowledge in aquatics for beginners. Offered Every Term.

Repeatable for 4 Credits

LFA 1200 Theory and Practice of Aquatics: Water Safety Instructor Cr. 2

Instructional methods and techniques in aquatics, water safety and survival; swimming program development; pool and waterfront administration and management. Leads to Water Safety Instructor certification. Offered Winter.

LFA 1210 Pilates Matwork Cr. 2

Total body exercise program using a series of floor exercises to increase strength, flexibility, stamina and concentration. Exercises are selected based on core strengths and stabilization methods. Offered Every Term.

Repeatable for 4 Credits

LFA 1220 Cardio-Fit Kickboxing Cr. 2

Time-efficient workout that stimulates the cardiorespiratory and musculoskeletal systems. Structured routines for all fitness levels (basic, intermediate, advanced); utilizes only basic kickboxing techniques. Offered Every Term.

Repeatable for 4 Credits

LFA 1230 Sculpt, Stretch, and Tone Cr. 2

Total-body resistance exercise program using hand weights, ankle weights, rubber tubing, adjustable step, and other flexible sources of resistance. High-repetition exercises concentrating on proper technique, body alignment, muscular development, sound biomechanical principles. Offered Every Term.

Repeatable for 6 Credits

LFA 1240 Step and Tone Cr. 2

Cardiovascular and muscular endurance and strengthening program using the adjustable step, rubber tubing, and hand-held weights. Low-impact, high-intensity workout. Energy cost controlled by step height, music tempo, tubing tension, size of weights. Offered Every Term.

Repeatable for 4 Credits

LFA 1250 Zumba Cr. 2

Zumba is a fusion of Latin and International music and dance themes; the routines feature easy-to-follow aerobic/fitness interval training with rhythms that tone and sculpt the body. Offered Every Term.

Repeatable for 4 Credits

LFA 1260 Step Aerobics Cr. 2

Cardiovascular and muscular endurance program using the adjustable step; designed for a low-impact, high-intensity workout. Energy cost as controlled by step height, music, tempo, choreography. Offered Every Term.

Repeatable for 4 Credits

LFA 1275 Water Aerobics Cr. 2

Cardiovascular and muscular endurance program using water resistance exercises performed to music designed to improve strength, flexibility and overall cardiovascular fitness. Performed in shallow water, this class offers basic, structured drills and routines, with low-impact, variable workout intensities, and use of additional resistance devices. Swimming skills not necessary. Offered Every Term.

Repeatable for 4 Credits

LFA 1280 Piloxing Cr. 2

Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

LFA 1315 Boxing Conditioning Cr. 2

A time-efficient workout which stimulates the cardio respiratory and musculoskeletal systems. It offers structured routines for all fitness levels (basic, intermediate, advanced). Utilizes basic boxing techniques. Boxing skills not necessary. Great for improving cardiovascular endurance. Offered Every Term.

Repeatable for 4 Credits

LFA 1320 Boot Camp Fitness Cr. 2

Group physical training class that mixes traditional calisthenics and body weight exercises with cardiovascular interval training and strength conditioning. Designed to promote fat loss, camaraderie and team effort. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

LFA 1330 Floor Hockey Cr. 2

Analysis, development and practice of fundamental skills, team play, strategies and rules of Floor Hockey. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

LFA 1340 Zero to a 5K Cr. 2

A personalized walking/jogging/running program designed to improve the level of cardio-respiratory condition of the participant, with the ultimate goal of completing a 5K (3.1 miles). Considerations include: nutrition, endurance, strength, proper form and various injury prevention guidelines. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

LFA 1350 Pocket Billiards: Beginning Cr. 2

Basic skills and technique; history, rules, equipment and game courtesy. Offered Fall, Winter.

Repeatable for 4 Credits

LFA 1410 Golf Cr. 2

Analysis and practice of fundamentals focused on development of correct form in the use of different clubs. Offered Every Term.

Repeatable for 4 Credits

LFA 1470 Mindfulness, Fitness and Stress Management Cr. 2

A variety of physical training methods which integrate a mind-body approach to achieve positive changes in physiological measures of physical fitness. Develop healthy coping habits to prevent or reduce stress. Techniques include but are not limited to exercise, yoga, breathing and meditation, and journaling. Offered Every Term.

Repeatable for 4 Credits

LFA 1480 Yoga Cr. 2

Yoga physical exercises to shape and strengthen the human body. Psychosomatic influences used to develop resistance against stress and to train the body and mind to relax. Utilization of auto-suggestion to influence lifestyle. Offered Every Term.

Repeatable for 4 Credits

LFA 1510 Women's Fitness Cr. 2

Students will be taught a variety of different methods of cardio and strength training in a different setting each week. Principles and benefits of cross training will be addressed through participation in a wide variety of activities in the gym, outside, and in the weight room. Offered Every Term.

Repeatable for 4 Credits

LFA 1520 Kickball/Dodgeball Cr. 2

Analysis, development and practice of fundamental skills, team play, strategies and rules of kickball and dodgeball. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

LFA 1530 Basketball: Fundamental Skills Cr. 2

Analysis and practice of fundamental skills, team play, and rules of basketball. Offered Every Term.

Repeatable for 4 Credits

LFA 1540 Basketball: Shooting Skills and Strategies Cr. 2

Analysis and practice of intermediate and advanced shot-making skills and game strategies. Offered Fall, Winter.

Repeatable for 4 Credits

LFA 1560 Team Sports Sampler Cr. 2

The analysis, development, and practice of fundamental skills, team play and rules of basketball, volleyball, dodgeball, kickball and other team sports. Offered Winter.

Repeatable for 4 Credits

LFA 1640 Weight Training and Fitness Cr. 2

Analysis and practice of sound weight training techniques; discussion of principles that underlie effective resistance exercise programs leading to improved personal fitness. Offered Every Term.

Repeatable for 4 Credits

LFA 1710 Fencing: Beginning Cr. 2

Analysis and practice of skills, rules, strategy, conduct of competitive means. Offered Fall, Winter.

Repeatable for 4 Credits

LFA 1780 Tai Chi Chuan: Beginning Cr. 2

An ancient Chinese exercise, Tai Chi is a series of postures and transitional movements, used to improve balance, strength, circulation, and relaxation. Offered Fall, Winter.

Repeatable for 4 Credits

LFA 1850 Soccer: Beginning Cr. 2

Fundamental playing skills and basic conditional and tactical aspects of the game of soccer. Rules of the game. Offered Every Term.

Repeatable for 4 Credits

LFA 1992 Volleyball: Beginning Cr. 2

Analysis and practice of skills, team play, strategy, rule interpretation. Offered Fall, Winter.

Repeatable for 4 Credits

LFA 2330 First Aid and CPR Cr. 3

Theory and practice of First Aid and CPR. Students can qualify for national certificates in First Aid and CPR. Offered Every Term.

Course Material Fees: \$30

LFA 2560 Freshmen Quests Cr. 2

Designed for incoming freshmen to help facilitate the transition to college life, workload, and expectations. During trips, students will be introduced to many faculty/staff from various departments to learn the keys to achieving a successful college career. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$75

LGL - LANGUAGE LEARNING

LGL 5750 Theories of Second Language Acquisition Cr. 3

The complex processes involved in learning a foreign/second language, including the cognitive, affective, and social factors influencing learner success and the effectiveness of instruction. Offered Biannually.

Equivalent: ENG 5750, LIN 5750

LGL 5810 Teaching Foreign Languages: Receptive Skills Cr. 3

Current research and theory on acquisition of reading and listening skills in a foreign language applied to classroom instruction. Difference between receptive and productive language use; how methods of foreign language teaching treat the instruction of the receptive skills. Offered Biannually.

LGL 5820 Teaching Foreign Languages: Productive Skills Cr. 3

Current research on acquisition of speaking and writing skills in a foreign language. Difference between productive and receptive language use; how various methods of foreign language teaching treat the instruction of productive skills. Offered Biannually.

Equivalent: LED 5820

LGL 5830 Technology in the Foreign Language Classroom Cr. 3

Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. Offered Biannually.

LGL 5850 Foreign Language Instruction Cr. 3

Theoretical basis of second language teaching models; historical overview of methodologies; current trends in teaching of reading, writing, listening, speaking, and culture. Implications of methodology on materials, classroom techniques, and assessment. Offered Biannually.

Equivalent: LED 5850

LGL 5860 Assessment in the Foreign Language Classroom Cr. 3

Means of assessing students' knowledge of a foreign language. Topics include: ACTFL Oral Proficiency Interview; assessment of reading, writing, speaking, listening, vocabulary, grammar and culture; through testing and other forms of assessment. Offered Yearly.

LGL 7810 Teaching Foreign Languages: Receptive Skills Cr. 3

Latest research on acquisition of reading and listening skills in a foreign language. Difference between receptive and productive language use; how methods of foreign language teaching treat the instruction of the receptive skills. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LGL 7820 Teaching Foreign Languages: Productive Skills Cr. 3

Current research on acquisition of speaking and writing skills in a foreign language. Difference between productive and receptive language use; how various methods of foreign language teaching treat the instruction of productive skills. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LGL 7830 Technology in the Foreign Language Classroom Cr. 3

Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LGL 7850 Foreign Language Instruction Cr. 3

Theoretical basis of second language teaching models; historical overview of methodologies; current trends in teaching of reading, writing, listening, speaking, and culture. Implications of methodology on materials, classroom techniques, and assessment. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LGL 7860 Assessment in the Foreign Language Classroom Cr. 3

Means of assessing students' knowledge of a foreign language. Topics include: ACTFL Oral Proficiency Interview; testing of reading, writing speaking and listening skills; means of testing grammar and culture; testing as it relates to program goals. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

LGL 7999 Master's Essay Direction Cr. 1-3

Essay course required for degree. Offered Every Term.

Restriction(s): Enrollment limited to students in the MA in Language Learning program; enrollment is limited to Graduate level students.

LIN - LINGUISTICS

LIN 1850 Introductory Symbolic Logic Cr. 3

The logic of propositions; the general logic of predicates and relations. Offered Every Term.

Equivalent: PHI 2850

LIN 1860 Honors Symbolic Logic Cr. 3

See LIN 1850. Offered Every Term.

Equivalent: PHI 2860

LIN 2720 Basic Concepts in Linguistics Cr. 3

Analysis of the structure and use of language, focusing on English, from the standpoint of current linguistic practice. Topics include: phonetics and sound structure, word structure, syntax, semantics, language origin and history, dialects, language learning and animal communication, and language in social interaction. Offered Yearly.

Equivalent: ENG 2720

LIN 2730 Languages of the World Cr. 3

Survey of structure of major language families of the world, western and non-western; interrelationships of language and culture; universals and variations of universals in language and culture. Offered Yearly.

Equivalent: ENG 2730

LIN 3080 Cognitive Psychology: Fundamental Processes Cr. 3

Fundamental theories, concepts, and empirical findings in study of human cognition. Topics include: thinking, problem solving, language comprehension and production, memory and attention. Offered Yearly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D- and PSY 1030 with a minimum grade of D-])

Equivalent: PSY 3080

LIN 3310 Language and Culture Cr. 3

An introduction to linguistic anthropology. Using comparative approaches to language and culture across time and space, explore variation and change, cognitive dimensions of language, language evolution, linguistic myths, and the use of language in social practice. Offered Fall.

Prerequisites: ([LIN 2720 with a minimum grade of D-] OR [ANT 2100 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: ANT 3310

LIN 3700 Structure of English Cr. 3

Survey of the major structural features of Standard English at the levels of sounds, words, and sentences, using concepts and methods from the field of linguistics. Special attention to relation of spoken to written English. Offered Yearly.

Equivalent: ENG 3700

LIN 5050 Advanced Symbolic Logic Cr. 4

Formal, extensive treatment of first-order predicate logic with emphasis on the notions of a formal logical language and truth in a model; the logic of identity; definite descriptions; brief introductions to set theory and the metatheory of propositional and first-order logic; some additional advanced topics to be selected by the instructor. Offered Yearly.

Equivalent: PHI 5050

LIN 5080 Phonetics Cr. 3

Multisensory study of sounds in the English language, emphasizing acoustic, physiologic, kinesiology approaches. Offered Fall, Winter.

Course Material Fees: \$12

Equivalent: SLP 5080

LIN 5100 Languages of Asia Cr. 3

Introduction to major language families in Asia; grammar, sounds, language contact. Offered Biannually.

Equivalent: CHI 5220, JPN 5220

LIN 5200 Modal Logic Cr. 4

The logic of necessity, possibility, and other modal notions as they occur in epistemic and deontic contexts. Offered Biannually.

Prerequisites: ([PHI 1850 with a minimum grade of D-] OR [PHI 1860 with a minimum grade of D-])

LIN 5210 Arabic Sociolinguistics Cr. 3

Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. Offered Biannually.

Equivalent: ARB 5210, NE 5210

LIN 5220 Introduction to Chinese Linguistics Cr. 3

Basic elements of Chinese linguistics: sounds, grammar, dialects, language change. Offered Biannually.

Equivalent: CHI 5210

LIN 5230 Structure of Arabic Cr. 3

Survey of historical constitution and theoretical structure of Arabic. Offered Yearly.

Equivalent: ARB 5230, NE 5230

LIN 5240 Grammar of Chinese Cr. 3

Basic elements of Chinese grammar; includes question formation, negation, time reference, etc. Offered Biannually.

Equivalent: CHI 5230

LIN 5290 Phonology Cr. 3

The sound systems of a variety of human languages compared and contrasted in an introduction to the diversity and similarities in human sound systems. Theories of the nature of sound systems and methods of analysis in phonology and morphophonology will be presented. Offered Yearly.

Equivalent: ENG 5710

LIN 5300 Syntax Cr. 3

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. Offered Yearly.

Equivalent: ENG 5740

LIN 5320 Language and Societies Cr. 3

For graduate students and advanced undergraduates with a background in linguistic anthropology. Students read classic and contemporary works of linguistic anthropology to expand knowledge of human language and sociality; conduct a major original research project. Offered Winter.

Prerequisites: ([LIN 3310] OR [ANT 3310])

Equivalent: ANT 5320

LIN 5360 Normal Language Acquisition and Usage Cr. 3

Language development in children and the associated areas of emotional and motor development; language stimulation techniques and programs. Offered Fall, Spring/Summer.

Course Material Fees: \$10

Equivalent: SLP 5320

LIN 5570 Philosophy of Language Cr. 4

Intensive investigation and discussion of philosophical problems concerning meaning, truth, and the nature of language. Offered Biannually.

Prerequisites: ([PHI 1850] OR [PHI 1860] OR [PHI 2400] OR [PHI 2550] OR [PHI 2650] OR [PHI 3500] OR [PHI 3550] OR [PHI 3600] OR [PHI 5230] OR [PHI 5500] OR [PHI 5530] OR [PHI 5550] OR [PHI 5570] OR [PHI 5630] OR [PHI 5640])

Equivalent: PHI 5570

LIN 5700 Introduction to Linguistic Theory Cr. 3

Introduction to the scientific study of language and methodologies of linguistic analysis: phonetics and phonology, morphology, syntax and semantics. Offered Yearly.

Equivalent: ENG 5700

LIN 5715 Morphology Cr. 3

Morphology is a core area of Linguistics. The course will introduce the basic issues in the study of the internal structure of words, as well as the analytical techniques applied to morphological analysis. Students will learn how to analyze words of various (Indo-European and non-Indo-European) languages into morphemes, as well as to recognize morphological patterns and to utilize theoretical concepts in order to describe and analyze such patterns. Offered Irregularly.

Prerequisites: ([ENG 5700 with a minimum grade of D-] OR [ENG 2720 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-] OR [LIN 5700 with a minimum grade of D-])

Equivalent: ENG 5715

LIN 5720 Linguistics and Education Cr. 3

Introduction to linguistics with emphasis on applications to education. Offered Yearly.

Equivalent: ENG 5720

LIN 5730 English Grammar Cr. 3

Comprehensive analysis of English sentence structure and parts of speech using the terminology and descriptive approach of traditional grammar. Offered Yearly.

Equivalent: ENG 5730

LIN 5745 Semantics Cr. 3

Semantics is a core area of Linguistics. This course investigates meaning in natural language. It examines two foundational assumptions of natural language semantics: (i) that the meaning of a declarative sentence is its truth conditions and (ii) that the truth conditions of an expression are determined compositionally (that is, they are determined as a function of its parts and how they are put together). Offered Irregularly.

Prerequisites: ([ENG 5700 with a minimum grade of D-] OR [ENG 2720 with a minimum grade of D-] OR [LIN 2720 with a minimum grade of D-] OR [LIN 5700 with a minimum grade of D-])

Equivalent: ENG 5745

LIN 5750 Theories of Second Language Acquisition Cr. 3

The complex processes involved in learning a foreign/second language, including the nature of inter language and the individual and collective factors influencing learner success and the effectiveness of instruction. Offered Yearly.

Equivalent: ENG 5750, LGL 5750

LIN 5760 American Dialects Cr. 3

Survey of chief social and geographic dialects of American English and introduction to theory of language variation. Offered Irregularly.

Equivalent: ENG 5760

LIN 5770 Sociolinguistics Cr. 3

Identification of sociolinguistic principles used by English speakers and writers in choosing among the different English codes, styles, registers and social dialects in American and other communities. Offered Biannually.

Equivalent: ENG 5770

LIN 5900 Culture, Language and Cognition Cr. 3

Using concepts and methods at the interdisciplinary nexus of anthropology, linguistics, and psychology, the course examines the ways in which concepts are similar and different cross-culturally. Offered Biannually (Winter).

Prerequisites: ([ANT 3310] OR [LIN 3310] OR [ANT 5320] OR [LIN 5320])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Equivalent: ANT 5900, PSY 5900

LIN 5993 Writing Intensive Course in Linguistics Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a corequisite course; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Intensive training in literature search, linguistic analysis, and the preparation of scholarly written work. Required for all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [LIN 5210] OR [LIN 5320] OR [LIN 5750] OR [LIN 5760] OR [LIN 5770] OR [LIN 6720] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

LIN 6700 History of Arabic Cr. 3

History of the evolution of Arabic. Data from phonetics/phonology and morpho-syntax will form the basis of study. Offered Fall.

Equivalent: ARB 6700

LIN 6710 Psycholinguistics Cr. 3

Theory and research in various topics in psycholinguistics, including language development, speech perception and production, and language comprehension. Offered Yearly.

Equivalent: PSY 6710

LIN 6720 Topics in Language Cr. 3

Topics such as: pragmatics, historical linguistics, history of English, language and gender, language and variation, language and evolution; to be announced in Schedule of Classes. Offered Yearly.

Equivalent: ENG 6720, LIN 5720

Repeatable for 12 Credits

LIN 7010 Acoustics of Speech Cr. 3

Acoustic consequences of phonetically-relevant articulatory movements. Offered Irregularly.

Prerequisites: ([SLP 5080] OR [SLP 5090])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: SLP 7010

LIN 7300 Comparative Romance Linguistics Cr. 3

Historical development and earliest texts in the Romance languages: Latin substrata, historical diffusion, Vulgar Latin, linguistic borrowings, classification, and characteristics of the various Romance languages. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

LIN 7320 Seminar in Hispanic Linguistics Cr. 3

Seminar topics will vary according to the principal divisions of Spanish linguistics: phonology, morphology, lexicography, syntax, and dialectology. Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: SPA 8420

LIN 7665 Seminar in Linguistic Anthropology Cr. 3

Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([ANT 5320] OR [LIN 5320])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANT 7665

LIN 7710 Advanced Studies in Linguistic Structure Cr. 3

Current issues in linguistic theory, including but not limited to topics in problems in phonology, morphology, syntax, semantics. Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ENG 7710

Repeatable for 9 Credits

LIN 7720 Advanced Studies in Language Use Cr. 3

Current problems in language use, including issues in language variation, pidgins and creoles, first language acquisition, perception and production, and linguistic stylistics. Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ENG 7720

Repeatable for 9 Credits

LIN 7770 Discourse Analysis Cr. 3

Analysis of inter-sentential relationships and of larger patterns. Implied and actual exchanges. Information ordering. Multi-level and intersectional analysis of expository prose. Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ENG 7770

Repeatable for 9 Credits

LIN 7991 Directed Study in Linguistics Cr. 1-9

A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANT 7991

Repeatable for 9 Credits

LIN 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

LIS - LIBRARY AND INFORMATION SCIENCE

LIS 6010 Introduction to the Information Profession Cr. 3

The development and place of libraries in society; objectives, functions of and trends in major types of libraries. Core course. Prerequisite for all MLIS courses. Offered for graduate credit only. (T)

LIS 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. Offered for graduate credit only. (T)

LIS 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. Offered for graduate credit only. (T)

LIS 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. Offered for graduate credit only. (T)

LIS 6350 Design Thinking and Knowledge (LDT 6110) Cr. 4

Prereq. or coreq: LIS 6010 and LIS 6080. Exploring broad conceptions of design including all activities involved in generating intentional change via artifacts and experiences; design thinking and knowledge. Offered for graduate credit only. (Y)

LIS 6360 Producing and Evaluating Technology-Based Instructional Materials (LDT 5140) Cr. 4

Prereq. or coreq: LIS 6010 and LIS 6080. Design and development of instructional materials and media with an emphasis on technology applications integration. Creation and evaluation of instructional media and materials, based on national and state technology standards. Offered for graduate credit only. (Y)

LIS 6510 Survey and Analysis of Current Literature for Children: PS-Grade 3 (RLL 7720) 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. Offered for graduate credit only. (F)

LIS 6520 Survey and Analysis of Literature for Older Children: Grades 4-8 (RLL 7740) 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. Offered for graduate credit only. (W)

LIS 6530 Young Adult Literature (EED 6310) 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. Offered for graduate credit only. (S)

LIS 6550 Storytelling (RLL 7780) 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. Offered for graduate credit only. (I)

LIS 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. Offered for graduate credit only. (Y)

LIS 7040 Library Administration and Management Cr. 3

Prereq. or coreq.: 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)

LIS 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. (Y)

LIS 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)

LIS 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)

LIS 7085 Arts/Museum Librarianship Cr. 1

Prereq: LIS 6120. Fundamental concepts concerning fine arts and museum libraries. (W)

LIS 7110 Humanities Information Services and Resources Cr. 1

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. (Y)

LIS 7120 Science and Technology Information Services and Resources Cr. 1

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. (I)

LIS 7130 Social Sciences Information Services and Resources Cr. 1

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. (I)

LIS 7140 Advanced Reference Service Strategies Cr. 3

Prereq: LIS 6120. Information needs and seeking behaviors, reference interview techniques, and information literacy. (F)

LIS 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)

LIS 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. (W)

LIS 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. (B)

LIS 7320 The Media Specialist as Teacher and Instructional Consultant Cr. 3

Prereq: or coreq: LIS 6010 and LIS 6080. 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. (B)

LIS 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)

LIS 7350 Advanced Instructional Design Tools and Techniques (LDT 7110) 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)

LIS 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)

LIS 7400 Urban Libraries Cr. 1

Prereq: LIS 6010, LIS 6080, LIS 7040. Interdisciplinary approach to planning, managing, and implementing services in urban libraries. (I)

LIS 7410 Software Productivity Tools Cr. 3

Prereq: LIS 6010, LIS 6080 or equiv. Concepts and skills for application and use of productivity tools in contemporary information environment. (Y)

LIS 7415 Project Management Cr. 3

Prereq: LIS 6010, LIS 6080 and LIS 7040. Identification of current information systems and problems, determination and definition of information needs and requirements, evaluation of alternative solutions. (W)

LIS 7420 Website Development Cr. 3

Prereq: LIS 6010 and LIS 6080. 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)

LIS 7430 Building Web-Based Information Services. 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. (F)

LIS 7435 Integrated Library Systems Cr. 3

Prereq: LIS 6010, LIS 6080 and LIS 6210. Practical experience with common Integrated Library Systems; understanding the role of ILS in function of the information organization. Extensive use of computing facilities. (S)

LIS 7440 Scripting Languages 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. (W)

LIS 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. (F)

LIS 7460 Database Concepts Cr. 3

Prereq: LIS 6010, LIS 6080. 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)

LIS 7470 Information Architecture Cr. 3

Prereq: LIS 6010, LIS 6080. Dissemination of information that affects context, content and user. Associations with website development; use in technical writing, presentation preparation, report generation. (W)

LIS 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. (F)

LIS 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)

LIS 7492 Information Visualization Cr. 3

Prereq: LIS 6080. Analysis of large data sets and drawing insights through use of information technology tools, statistical techniques, charts and graphs. (Y)

LIS 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. (F)

LIS 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. (B)

LIS 7620 Introduction to Health Informatics and E-Science Cr. 3

Prereq: LIS 6010 and LIS 6080. Overview of health informatics and e-science, and critical role of health information technologies to enhance quality healthcare. (W)

LIS 7640 Practicum: Public Cr. 3

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with written 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)

LIS 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)

LIS 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 written 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)

LIS 7660 Practicum: Academic Cr. 3

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with written consent of advisor. Offered for S and U grades only. On-site experience in academic library/information center under direction of professional librarian and supervision of faculty member; theory and competencies. Seminars to be arranged. (T)

LIS 7670 Practicum: Special Cr. 3

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210, and LIS 7040, plus an additional nine LIS credits with written 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)

LIS 7710 Archival Administration (HIS 7840) Cr. 3

Basic training in archival methods. (F)

LIS 7730 Administration of Audio Visual Collections (HIS 7890) Cr. 3

Prereq: LIS 7710 and written consent of instructor. 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)

LIS 7740 Archives and Libraries in the Digital World (HIS 7745) Cr. 3

Prereq: LIS 6010 or LIS 7710/HIS7840. Overview of electronic tools and the role of digital process in libraries and archives. (B)

LIS 7750 Introduction to Archival and Library Conservation (HIS 7810) Cr. 3

Prereq: LIS 6010 or LIS 7710/HIS7840. Fundamentals of archival and library conservation problems and methods essential for effective preservation management of paper and associated materials. (B)

LIS 7770 Oral History: A Methodology for Research (HIS 7860) Cr. 3

Techniques of gathering data from individuals for use in research, classroom teaching, historical, cultural or other contexts. (F)

LIS 7780 Description and Access for Archives (HIS 7820) Cr. 3

Pre- or coreq: LIS 7710 or HIS 7840. Investigation of description of archival materials emphasizing the electronic technologies and standard practices. (Y)

LIS 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)

LIS 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)

LIS 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. (Y)

LIS 7885 Administration of Historical Agencies (HIS 7880) 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)

LIS 7900 Digital Libraries Cr. 3

Prereq: LIS 6010, LIS 6080, LIS 6120, LIS 6210. Critical issues, theoretical and practical principles of digital libraries. (Y)

LIS 7910 Metadata in Theory and Practice Cr. 3

Prereq: LIS 6010, LIS 6080, LIS 6120, and LIS 6210. Theoretical and practical principles of metadata used to provide access to digital objects online. (Y)

LIS 7920 Digital Curation and Preservation Cr. 3

Prereq: LIS 6210. Theoretical principles and practical aspects of digital curation and preservation within libraries, museums, archives and other institutions administering data and digital content. (Y)

LIS 7940 Human-Computer Interaction Cr. 3

Prereq: LIS 7420. Interactions between human beings and computer technologies through usability evaluations and user experience design. (F)

LIS 7950 Practicum: Digital Content Cr. 3

Prereq: LIS 7900, LIS 7910, LIS 7920. Offered for S, M, or U grade only. Practical experience with digital content under direction of professional librarian and supervision of faculty member. Theory and competencies relevant to the environment. Seminars to be arranged. (Y)

LIS 7960 Practicum: Information Management Cr. 3

Prereq: LIS 6080. Practical experience with technology-based information management under direction of information professional and supervision of a faculty member. Theory and competencies relevant to the project activities. Seminars to be arranged. (T)

LIS 7970 Practicum: Archives 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)

LIS 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)

LIS 7996 Research for the Information Profession 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)

LIS 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)

LIS 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. (I)

LIS 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. (I)

LIS 8120 Legal Information Resources and Services Cr. 1

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. (I)

LIS 8130 Business and Industry Information Resources Cr. 1

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. (I)

LIS 8210 Advanced Classification and Cataloging Cr. 3

Prereq: LIS 6010, LIS 6080, LIS 6210. 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. (I)

LIS 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. (I)

LIS 8370 Cultural Competence for Library and Information Professionals Cr. 1

Discussion of socio-historical emergence of multiple user communities as a prerequisite for integrating library services into these communities. Focus on critical content. (I)

LIS 8410 Topics in Information Management Cr. 1-3 (Max. 9)

Prereq: LIS 6010, LIS 6080. 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)

LIS 8998 Specialist's Research Seminar Cr. 3

Prereq: written consent of advisor. Advanced research methods and application. (S)

MAE - MATHEMATICS EDUCATION

MAE 5100 Geometry for Middle School Teachers Cr. 3

Development of Euclidean geometry as a mathematical system; related historical topics; introduction to other geometries; selected topics such as transformations and tessellations. No credit toward a major or minor for secondary mathematics teaching. Offered Yearly.

Prerequisites: ([MAT 1110 and MAT 1120])

Equivalent: MAT 5180

MAE 5110 Number Theory for Middle School Teachers Cr. 3

Topics from elementary theory of numbers which underlie middle school mathematics; historical connections; role of abstraction and proof in mathematics. No credit toward a major or minor for secondary mathematics teaching. Offered Yearly.

Prerequisites: ([MAT 1800] OR [MAE 5060] OR [MAT 1120])

Equivalent: MAT 5190

MAE 5120 Abstract Algebra for Middle School Teachers Cr. 3

Topics from elementary abstract algebra underpinning middle school mathematics curriculum; historical connections; role of abstraction and proof in mathematics. No credit towards major in mathematics or secondary mathematics. Offered Yearly.

Prerequisites: ([MAT 1120 and MAT 1800] OR [MAE 5060])

Equivalent: MAT 5120

MAE 5130 Problem Solving for Middle School Teachers Cr. 3

Development of mathematical problem solving in middle grades mathematics education; study of non-routine problems; problem solving strategies; historical connections; connections to selected mathematics content and to topics in other disciplines. No credit towards a mathematics major or secondary mathematics education major. Offered Yearly.

Prerequisites: ([MAT 1120 and MAT 1800] OR [MAE 5060])

Equivalent: MAT 5130

MAE 5150 Methods and Materials of Instruction: Secondary School Mathematics Cr. 3

Mathematics in secondary school; major concepts of secondary school mathematics; methods and instructional materials; classroom administration; modern trends. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

MAE 6050 Teaching Mathematics in the Middle Grades Cr. 3

Creative use of resources and materials for improving the mathematics competencies of middle school and junior high school students; organizing the mathematics classroom for effective instruction; promising trends; related research. Offered Yearly.

Restriction(s): Enrollment limited to students in the College of Education.

MAE 6150 Special Topics Cr. 1-6

Current issues and trends; areas of neglected content; curriculum proposals; related research. Topics to be announced in Schedule of Classes. Offered Irregularly.

Repeatable for 12 Credits

MAE 6200 Teaching Arithmetic, Algebra and Functions from an Advanced Perspective Cr. 3

Students gain profound understanding of K-12 mathematics. Concepts underlying topics and procedures; their connections to higher mathematics. Teaching with Simplify; application of mathematical understanding to teaching practices. Offered Yearly.

Prerequisites: ([MAT 5120] OR [MAT 6170] OR [MAT 6180])

Equivalent: MAT 6200

MAE 6210 Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective Cr. 3

Historical perspectives, common conceptions and misconceptions, applications, technology, and mathematical connections relative to teaching geometry (including trigonometry), probability and statistics, and discrete mathematics in secondary school. Offered Yearly.

Equivalent: MAT 6210

MAE 6400 Elementary School: Mathematics Curriculum and Assessment Cr. 3

Developing competence in school mathematics programs: objectives, procedures, materials, organizational patterns, evaluation. Offered Every Term.

MAE 6450 Integrating Literature and Mathematics in the Elementary School Cr. 3

Examining the potential of literature for exploration of various mathematical concepts and relationships. Offered Spring/Summer.

MAE 7150 Advanced Studies in Teaching Discrete Mathematics Cr. 3

Nature of discrete mathematics and its applications, incorporating discrete topics in school mathematics. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MAE 7200 Advanced Studies in Teaching Statistics and Probability Cr. 3

Techniques for teaching statistics and probability in grades K-12; promising materials and activities; research on the learning and teaching of statistics and probability; related resources; review of basic concepts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MAE 7250 Advanced Studies in Teaching Algebra Cr. 3

Fundamental concepts of algebra for a modern secondary school mathematics program; current trends and experimental programs; related research; methods and materials of instruction. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MAE 7300 Advanced Studies in Teaching Geometry Cr. 3

Role of geometry and trigonometry in secondary school mathematics; selection of major concepts; development of postulational thinking; teaching procedures emphasizing modes of thinking in mathematics; modern trends. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MAE 7400 Seminar in Mathematics Education Cr. 3

Recent research in mathematics education; implications for learning and teaching, K-12. Topics to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

MAE 8400 Technology in Mathematics Learning and Teaching Cr. 3

Recent research on the use of technology in mathematics education; implications for learning and teaching mathematics, K-12. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MAE 8550 Theoretical Perspectives on Learning Mathematics Cr. 3

Survey of various perspectives on the learning and teaching of mathematics; underlying psychological bases; implications for teaching. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MAT - MATHEMATICS

For details on Mathematics prerequisite requirements, please see the Mathematics Placement Information (<http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/mathematics/placement>) *section of this bulletin, or the Mathematics Placement Exam* (<http://testing.wayne.edu/register/math-placement-exam.php>) **information provided by the Office of Testing, Evaluation and Research Services.**

MAT 0900 Essentials of Mathematics Cr. 5

Review of arithmetic, integers, fractions, decimals, percents, ratios. Algebra: solving equations and inequalities, algebraic expressions, graphing, and problem solving. No credits apply toward degree. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

MAT 0993 Beginning Algebra Cr. 3,5

Review of arithmetic, integers, fractions, decimals, percents, ratios. Algebra: solving equations and inequalities, algebraic expressions, graphing, problem solving. No credits apply toward degree. Offered Every Term.

Course Material Fees: \$124

MAT 0995 Intermediate Algebra Cr. 3

Exponents and radicals, solving polynomial and other types of equations and inequalities, graphs and systems of linear equations, introduction to functions, elementary geometry. No credits apply toward degree. Offered Every Term.

Prerequisites: ([MAT 0993 with a minimum grade of D-] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 11701-19999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21701-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 31701-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 11701-19999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21701-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 31701-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 11701-19999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21701-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31701-39999])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$124

MAT 1000 Mathematics in Today's World Cr. 3

Applications of mathematics to issues of current interest including patterns, paradoxes, limitations, and possibilities in voting, apportionment and division processes, using sampling methods, and developing information to support decisions. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

MAT 1050 Algebra With Trigonometry Cr. 5,7

Algebra: properties of the real number system, equations and inequalities, lines, graphs, introduction to functions, exponents, logarithms. Geometry and trigonometry: basic concepts, introduction to trigonometric functions, solving right triangles. Mathematics, mathematics education, science, and engineering majors should elect the 7-credit version of this course. If elected for 5 credits, only 2 credits apply toward degree; if elected for 7 credits, only 3 credits apply toward degree. Offered Every Term.

Prerequisites: ([MAT 0993 with a minimum grade of CNC] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 11701-19999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21701-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 31701-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 11701-19999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21701-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 31701-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 11701-19999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21701-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31701-39999])

MAT 1110 Mathematics for Elementary School Teachers I Cr. 3

Problem solving, sets, functions, reasoning, number theory, whole numbers, integers, fractions, decimals. Offered Fall, Winter.

Prerequisites: ([MAT 1050 with a minimum grade of C-] OR [MAT 0995 with a minimum grade of CNC] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21701-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 31701-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21701-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 31701-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21701-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31701-39999])

MAT 1120 Mathematics for Elementary School Teachers II Cr. 3

Statistics, probability, geometry, and measurement, Offered Fall, Winter.

Prerequisites: (1 of MAT 1110 with a minimum grade of C) AND (1 of MAT 1110 with a minimum grade of C) AND ([MAT 1110 with a minimum grade of C-] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21701-99999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21701-99999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21701-99999])

MAT 1500 College Algebra for the Social and Management Sciences Cr. 3

Equations and inequalities, graphs and functions, polynomial and rational functions, exponential and logarithmic functions. Offered Every Term.

Prerequisites: ([MAT 1050 with a minimum grade of C-] OR [MAT 0995 with a minimum grade of CNC] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21701-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 31701-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21701-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 31701-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21701-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31701-39999])

Course Material Fees: \$124

MAT 1800 Elementary Functions Cr. 4

Basic definition and concept of function. Definitions, properties and graphs of polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric functions. Only two degree credits after MAT 1500. Offered Every Term.

Prerequisites: ([MAT 1050 with a minimum grade of C-] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21701-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 31701-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21701-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 31701-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21701-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31701-39999])

MAT 1990 Precalculus Workshop Cr. 2

Students work cooperatively in groups to solve challenging problems related to precalculus. Learning is through discovery rather than by lecture. Offered Every Term.

MAT 2010 Calculus I Cr. 4

Calculus as the study of change. Definitions, concepts, and interpretations of the derivative and the definite and indefinite integrals; differentiation, integration, applications. No credit after former MAT 1510. Offered Every Term.

MAT 2020 Calculus II Cr. 4

Review definition of definite integral and fundamental theorem of calculus. Techniques of integration; approximate integration; improper integrals; applications of integration. Sequences and series. Approximating functions by polynomials and Taylor series. Offered Every Term.

MAT 2030 Calculus III Cr. 4

Multivariable calculus with applications. Vectors and vector functions in two and three dimensions; functions of several variables; differentiation; integration; vector calculus. Offered Every Term.

Prerequisites: ([MAT 2020 with a minimum grade of C-])

MAT 2110 Calculus Workshop I Cr. 2

Students work cooperatively in groups to solve challenging problems related to calculus. Learning is through discovery rather than by lecture. Offered Every Term.

Prerequisite: MAT 2010 (may be taken concurrently) with a minimum grade of C

MAT 2120 Calculus Workshop II Cr. 2

Students work cooperatively in groups to solve challenging problems related to calculus. Learning is through discovery rather than by lecture. Offered Winter.

Prerequisite: MAT 2020 (may be taken concurrently) with a minimum grade of C

MAT 2150 Differential Equations and Matrix Algebra Cr. 4

Differential equations and applications; basic operations of matrices from linear algebra. Only one degree credit after MAT 2350. Offered Every Term.

Prerequisites: ([MAT 2030 with a minimum grade of C-])

MAT 2210 Probability and Statistics Cr. 4

Counting techniques, discrete sample spaces and probability, random variables, mean and variance, joint distributions, the binomial and normal distributions, the central limit theorem, estimation and hypothesis testing. No credit after MAT 5700. Offered Every Term.

Prerequisites: ([MAT 1800 with a minimum grade of C- and MAT 1800 with a minimum grade of C-] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 30000-39999 and Math Permit to Reg - (L00-L03) with a test score minimum of 31701-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 30000-39999 and MAT Permit to Reg ACT/SAT with a test score minimum of 31701-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 30000-39999 and MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31701-39999] OR [MAT 2010 with a minimum grade of C-] OR [MAT 2020 with a minimum grade of C-])

MAT 2250 Elementary Linear Algebra Cr. 3

Topics include: systems of linear equations, matrices, vector spaces, basis, dimension, inner products, linear transformations and eigenvalues. Applications presented. Offered Every Term.

Prerequisites: ([MAT 2020 with a minimum grade of C-])

MAT 2350 Elementary Differential Equations Cr. 3

Topics include: first order equations, higher order linear equations, Laplace transforms, linear systems. Applications presented throughout the course. No degree credit after MAT 2150. Offered Every Term.

Prerequisites: ([MAT 2030 with a minimum grade of C-])

MAT 2860 Discrete Mathematics Cr. 3

Foundations of mathematics: logic and mathematical reasoning; sets, functions, sequences; the integers and the Euclidean algorithm; induction, recursive definitions and recurrence relations; graphs. Combinatorics. Graph theory. Boolean algebra. No credit after former MAT 1860 or 1870. Offered Yearly.

MAT 3430 Applied Differential and Integral Calculus Cr. 4

Limits, derivatives, applications of derivatives, definite integrals and their applications, and trigonometric functions. No degree credit in College of Liberal Arts and Sciences. Offered Every Term.

Equivalent: ET 3430

MAT 3450 Applied Calculus and Differential Equations Cr. 4

Continuation of MAT 3430, including logarithmic and exponential functions, first and second order ordinary differential equations, vectors, polar coordinates, Laplace transforms, Taylor series, and Fourier series. No degree credit in College of Liberal Arts and Sciences. Offered Every Term.

Prerequisite: MAT 3430 with a minimum grade of C-

Equivalent: ET 3450

MAT 4990 Directed Study: Honors Program Cr. 1-4

Offered Irregularly.

Repeatable for 8 Credits

MAT 5000 Fundamental Concepts of Mathematics and Proof Writing Cr. 3

Fundamental concepts: basic logic, basic set theory, functions, equivalence relations. Proof: methods of proof, structures of proofs, proof-writing in a variety of mathematical subjects. Not considered a 5000+ level course for undergrad. degree requirements in mathematics; no credit towards graduate degree in mathematics. Offered Fall, Winter.

Prerequisites: ([MAT 2250 with a minimum grade of C-] OR [MAT 2860 with a minimum grade of C-])

MAT 5030 Statistical Computing and Data Analysis Cr. 3

Computational aspect of statistics and data analysis for advanced undergraduate and beginning graduate students. Topics include descriptive statistics, probability distribution, hypothesis testing, ANOVA, linear regression and logistic regression. Data analysis by use of statistical packages such as R, SAS, Python, SPSS or Minitab. Offered Biannually.

Prerequisites: ([MAT 2210 with a minimum grade of C- and MAT 2250 with a minimum grade of C-] OR [MAT 5700 with a minimum grade of C-] OR [BE 2100 with a minimum grade of C-])

MAT 5070 Elementary Analysis Cr. 4

The real numbers; limits; continuity; sequences and series of functions; uniform convergence; power series; differentiation; integration. Offered Every Term.

Prerequisites: (1 of MAT 2250, MAT 2350, MAT 2150) AND ([MAT 2030 with a minimum grade of C-])

MAT 5100 Numerical Methods I Cr. 3

Numerical errors; solutions of nonlinear equations; polynomial interpolation; numerical approximation; numerical integration and differentiation; numerical solutions of systems of linear equations; numerical solutions of ordinary differential equations. Offered Yearly.

Prerequisites: (1 of CSC 1100, CSC 1101, BE 1500) AND ([MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-])

MAT 5110 Numerical Methods II Cr. 3

Numerical linear algebra topics, including eigenvalue problems, conjugate-gradient method, GMRES method; numerical solution of ordinary differential equations, Runge-Kutta methods; numerical solutions of partial differential equations, finite difference methods. Offered Winter.

Prerequisites: ([MAT 2150 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, MAT 2350 with a minimum grade of C-, and MAT 5100 with a minimum grade of C-])

MAT 5120 Abstract Algebra for Middle School Teachers Cr. 3

Topics from elementary abstract algebra underpinning middle school mathematics curriculum; historical connections; role of abstraction and proof in mathematics. No credit towards major in mathematics or secondary mathematics. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: MAE 5120

MAT 5130 Problem Solving for Middle School Teachers Cr. 3

Development of mathematical problem solving in middle grades mathematics education; study of non-routine problems; problem solving strategies; historical connections; connections to selected mathematics content and to topics in other disciplines. No credit towards a mathematics major or secondary mathematics education major. Offered for undergraduate credit only. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: MAE 5130

MAT 5180 Geometry for Middle School Teachers Cr. 3

Development of Euclidean geometry as a mathematical system; related historical topics; introduction to other geometries; selected topics such as transformations and tessellations. No credit toward a major or minor for secondary mathematics teaching. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: MAE 5100

MAT 5190 Number Theory for Middle School Teachers Cr. 3

Topics from elementary theory of numbers which underlie middle school mathematics; historical connections; role of abstraction and proof in mathematics. No credit toward a major or minor for secondary mathematics teaching. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: MAE 5110

MAT 5210 Advanced Calculus Cr. 4

Functions of many variables; limits, continuity; differentiation, mean value theorems; implicit and inverse function theorems; external problems, Lagrange multipliers; fixed-point methods; Taylor series; Fourier series, uniform convergence; improper integrals. Offered Yearly.

Prerequisites: ([MAT 2250 with a minimum grade of C-])

MAT 5220 Partial Differential Equations Cr. 4

Partial differential equations of mathematical physics; method of separation of variables; Fourier series; Sturm-Liouville eigenvalue problems; boundary-value problems; method of eigenfunction expansion; Green functions; solutions by Fourier transform; method of characteristics. Offered Biannually.

Prerequisites: ([MAT 5070 with a minimum grade of C-])

MAT 5230 Complex Variables and Applications Cr. 4

Cauchy-Riemann equations; elementary functions; mappings by elementary functions; the Cauchy integral formula; Morera's theorem; Taylor series; Laurent series; residues and poles; conformal mappings; the Schwarz-Christoffel transformations; potential theory; Fourier and Laplace transforms and applications in differential and integral equations. No credit after MAT 6600. Offered Biannually.

Prerequisites: ([MAT 5070 with a minimum grade of C-])

MAT 5280 Methods of Differential Equations Cr. 3

Linear nth order differential equations; linear systems of differential equations (constant and periodic coefficients); oscillation and comparison theorems for second order differential equations; boundary value problems; stability theory (Liapunov's direct method and frequency domain stability criteria); asymptotic solutions; autonomous non-linear systems; classification of singularities. Offered Biannually.

MAT 5350 Logical Systems I Cr. 4

Metaresults concerning formal systems of sentential and first-order logics; soundness, completeness; independence of axioms; introduction to recursive functions; formalization of elementary arithmetic; discussion of Godel's incompleteness theorem and Church's Theorem. Offered Biannually.

Prerequisites: ([MAT 5600 with a minimum grade of C-] OR [PHI 1850 with a minimum grade of C-] OR [PHI 1860 with a minimum grade of C-] OR [PHI 5050 with a minimum grade of C-] OR [MAT 5420 with a minimum grade of C-])

Equivalent: PHI 5350

MAT 5400 Elementary Theory of Numbers Cr. 3

Primes and the Fundamental Theorem of Arithmetic; greatest common divisor, least common multiple, Euclidean Algorithm; congruences, theorems of Fermat, Wilson and Euler; arithmetic functions; linear Diophantine equations; quadratic congruences and the Law of Quadratic Reciprocity. Optional topics include: applications to cryptography, perfect numbers, primitive roots and indices, Fibonacci numbers, Pythagorean triples, sums of squares, continued fractions. Offered Yearly.

Prerequisites: (1 of CSC 1100, CSC 1101, BE 1500) AND ([MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, MAT 2030, and MAT 2250])

MAT 5410 Applied Linear Algebra Cr. 4

Gaussian elimination, vector spaces, the four fundamental subspaces, orthogonality, least squares approximation, determinants, eigenvalues and eigenvectors, positive definite matrices, singular value decomposition, linear transformations, complex matrices. Applications such as differential and difference equations, Markov processes, graphs and networks, Fourier series, computer graphics, numerical linear algebra. Offered Biannually.

Prerequisites: (1 of CSC 1100, CSC 1101, BE 1500) AND ([MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, MAT 2030, and MAT 2250])

MAT 5420 Algebra I Cr. 4

Abstract concepts: sets, mappings, equivalence relations, induction, general methods of proof. Group theory: groups, subgroups, cyclic groups, direct products, cosets, Lagrange's Theorem, quotient groups, homomorphisms, permutation groups. Rings and fields (basic definitions). Only two credits apply after either MAT 6170 or 6180; no credit after both MAT 6170 and 6180. Offered Every Term.

Prerequisites: (1 of CSC 1100, CSC 1101, BE 1500) AND ([MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, MAT 2030, and MAT 2250])

MAT 5430 Algebra II Cr. 4

Group theory continued: Sylow Theorems, finite abelian groups. Ring theory: rings, integral domains, fields of quotients, homomorphisms, ideals, quotient rings, P.I.D.s, U.F.D.s, polynomial rings. Advanced topics in linear algebra: canonical forms. Field theory: extensions, splitting fields, finite fields, geometric constructions. Offered Every Term.

Prerequisites: ([MAT 5420 with a minimum grade of C-])

MAT 5520 Introduction to Topology Cr. 3

An introduction to topology, mostly through an intuitive approach. Topics chosen from among: topological equivalence and topological properties, complexes, Euler characteristic, connectedness, compactness, continuity, Brouwer's Fixed Point Theorem, vector fields, Hairy Ball Theorem, n -dimensional spaces, classification of surfaces, cut and paste techniques, the Moebius band, orientability, the fundamental group. No credit toward graduate degree in mathematics or statistics. Offered Yearly.

Prerequisites: ([MAT 2030 with a minimum grade of C- and MAT 5000 with a minimum grade of C-])

MAT 5530 Elementary Differential Geometry and its Applications Cr. 3

Introduction to the differential geometry of curves and surfaces in three-dimensional space. Curvature, torsion, Frenet formulas, fundamental theorem of space curves. Gauss and mean curvature, asymptotic and principal curves, geodesics, Gauss-Bonnet theorem. Applications such as pursuit curves, roulettes, brachistochrones, precession of Foucault's pendulum, design of packaging machines, shapes and soap films. Offered Irregularly.

Prerequisites: (1 of CSC 1100, CSC 1101, BE 1500) AND ([MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-])

MAT 5600 Introduction to Analysis I Cr. 4

Completeness, convergence, compactness, connectedness and continuity in the context of metric spaces; applications to differential calculus. Offered Every Term.

Prerequisites: ([MAT 5070 with a minimum grade of C-])

MAT 5610 Introduction to Analysis II Cr. 3

Integration, point-wise and uniform convergence of sequences and series of functions; power series; introduction to analytic functions; Fourier series; possible additional topics. Offered Every Term.

Prerequisites: ([MAT 5600 with a minimum grade of C-])

MAT 5700 Introduction to Probability Theory Cr. 4

Probability spaces; combinatorial analysis; independence and conditional probability; discrete and continuous random variables including binomial, Poisson, exponential and normal distributions; expectations; joint, marginal and conditional distribution functions; law of large numbers; central limit theorems. Offered Every Term.

Prerequisites: ([MAT 2030 with a minimum grade of C-])

MAT 5710 Introduction to Stochastic Processes Cr. 3

Non-measure-theoretic introduction to the theory of stochastic processes and its applications, with emphasis on Markov processes in both discrete and continuous time, the Poisson process, and Brownian motion. Offered Biannually.

Prerequisites: ([MAT 5700 with a minimum grade of C-])

MAT 5740 The Theory of Interest Cr. 3

Concrete problems used to explore concepts in the theory of interest, including measurement of interest, annuities, yield rates, amortization, bonds, and stochastic approaches. Students prepare for certain professional actuarial examinations. Offered Yearly.

Prerequisites: (1 of CSC 1100, CSC 1101, BE 1500) AND ([MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, and MAT 2020 with a minimum grade of C-])

MAT 5770 Mathematical Models in Operations Research Cr. 3

Deterministic and probabilistic mathematical modeling of real-world problems. Linear and nonlinear programming; Markov chains; queuing theory; inventory models; Markov decision processes. Offered Biannually.

Prerequisites: ([MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, and MAT 5700 with a minimum grade of C-])

MAT 5800 Introduction to Mathematical Statistics Cr. 4

A one-semester course for senior undergraduate and master's degree students. Introduction to basic mathematical theory of statistics. Topics include sample distributions, estimation theory, data analysis and sample statistics, testing hypothesis, two sample cases, analysis of variance, regression analysis, Bayesian inference. Offered Yearly.

Prerequisite: MAT 5700 with a minimum grade of C-

MAT 5830 Applied Time Series Cr. 3

Time series models, moving average models, autoregressive models, non-stationary models, and more general models; point estimators, confidence intervals, and forecast in the time domain. Statistical analysis in the frequency domain; spectral density and periodogram. Offered Biannually.

Prerequisite: MAT 5700 with a minimum grade of C- and MAT 5800 with a minimum grade of C-

MAT 5870 Methods of Optimization Cr. 3

Introduction to basic mathematical theory and computational methods of optimization; unconstrained and constrained optimization problems; optimality conditions in various optimization problems; numerical methods of optimization. Offered Yearly.

MAT 5890 Special Topics in Mathematics Cr. 3-4

Material currently of interest to students and faculty. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: (1 of MAT 2250, MAT 2350, MAT 2150) AND ([MAT 2030 with a minimum grade of C-])

Repeatable for 12 Credits

MAT 5990 Directed Study Cr. 1-4

Undergraduates who elect this course must be mathematics majors of honors caliber. Content will vary to satisfy needs of individual student. Offered Every Term.

Repeatable for 8 Credits

MAT 5992 Teaching Mathematics in College Cr. 1

Preparation for first semester of teaching in developmental-level mathematics course. Content presentation, test-writing, grading, classroom management, use of technology. Students are videotaped and critiqued. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Mathematics or Mathematics Honors; enrollment is limited to Graduate or Undergraduate level students.

MAT 5993 Writing Intensive Course in Mathematics Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. See section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing-Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Prerequisites: ([MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, MAT 2030, and MAT 2250])

Restriction(s): Enrollment is limited to Undergraduate level students.

MAT 6130 Discrete Mathematics Cr. 3

Foundations of mathematics: logic, sets, functions, sequences. The integers. Matrices. Mathematical reasoning: induction, recursive definitions and recurrence relations. Combinatorics. Graph theory. Boolean algebra. No credit after former MAT 1860 or 1870. Offered Yearly.

Prerequisites: ([MAT 2010 with a minimum grade of C-])

MAT 6140 Geometry: An Axiomatic Approach Cr. 3

Foundations: logic, axiom systems, models; Hilbert's axioms; the parallel postulate; Euclidean geometry; non-Euclidean geometries; hyperbolic geometry; philosophical questions. Offered Yearly.

Prerequisites: ([MAT 5000 with a minimum grade of C-])

MAT 6150 Probability and Statistics for Teachers Cr. 4

Counting techniques, discrete sample spaces and probability, random variables, mean and variance, joint distributions, the binomial and normal distributions, central limit theorem, estimation and hypothesis testing. No credit after MAT 5700. Offered Every Term.

Prerequisites: ([MAT 1800 with a minimum grade of C])

MAT 6170 Algebra: Ring Theory Through Exploration, Conjecture, and Proof Cr. 4

Rings: basic definitions; properties; examples including the integers, rationals, reals, and complex numbers; ideals; homomorphisms; and divisibility. Connections to high school algebra. Students will be involved in the mathematical processes of exploration, conjecture, and proof. Only two credits after MAT 5420; no credit after MAT 5430. Offered Irregularly.

Prerequisites: ([MAT 5000 with a minimum grade of C-])

MAT 6180 Algebra: Group Theory Through Exploration, Conjecture, and Proof Cr. 3

Groups: basic definitions, properties, examples, subgroups, cyclic groups, permutation groups, homomorphisms, quotient groups. Connections to high school algebra. Students will be involved in the mathematical processes of exploration, conjecture, and proof. Offered Yearly.

Prerequisites: ([MAT 5000 with a minimum grade of C-])

MAT 6200 Teaching Arithmetic, Algebra and Functions from an Advanced Perspective Cr. 3

Students gain profound understanding of K-12 mathematics. Concepts underlying K-12 topics and procedures; connections to higher mathematics. Teaching with Simplicity; applying mathematical understanding to teaching practices. Offered Yearly.

Prerequisites: ([MAT 5120 with a minimum grade of C-] OR [MAT 6170 with a minimum grade of C-] OR [MAT 6180 with a minimum grade of C-])

Equivalent: MAE 6200

MAT 6210 Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective Cr. 3

Historical perspectives, common conceptions and misconceptions, applications, technology, and mathematical connections relative to teaching geometry (including trigonometry), probability and statistics, and discrete mathematics in secondary school. Offered Yearly.

Equivalent: MAE 6210

MAT 6420 Advanced Linear Algebra Cr. 3

Vector spaces and linear maps from a basis free perspective. Vector spaces, linear transformations, dual spaces, quotient spaces, inner product spaces, quadratic forms, adjoint operators, normal operators, spectral theorem, Jordan canonical form, trace and determinant. Offered Winter.

Prerequisites: ([MAT 5430 with a minimum grade of C-])

MAT 6500 Topology I Cr. 3

Topological spaces and continuous functions; connectedness; compactness; product and quotient spaces; metric spaces; Urysohn's lemma; Tietze extension theorem; homotopy; covering spaces and path lifting; the fundamental group and examples; Brouwer fixed point theorem and applications. Offered Yearly.

Prerequisites: ([MAT 5610 with a minimum grade of C-])

MAT 6600 Complex Analysis Cr. 2-4

Complex differentiation; elementary functions; Cauchy's integral theorem; power series; Laurent expansions; singularities; residue theorem; entire and meromorphic functions; Riemann mapping theorem. Offered Yearly.

Prerequisites: ([MAT 5610 with a minimum grade of C-])

MAT 6830 Design of Experiments Cr. 3

Randomized blocks; Latin and Graeco-Latin squares; factorial designs; confounding; split plot; fractional replication; balanced incomplete blocks. Offered Irregularly.

MAT 6840 Linear Statistical Models Cr. 3

Multivariate linear regression models, examples; least square estimates and system of normal equations; the Gauss-Markov theorem; hypothesis testing about regression coefficients; confidence intervals and regions; prediction; model selection, stepwise regression. Analysis of variances (ANOVA). Offered Biannually.

Prerequisites: ([MAT 5700 with a minimum grade of C- and MAT 5800 with a minimum grade of C-])

MAT 7200 Ordinary Differential Equations Cr. 3

Existence and uniqueness of solutions; linear solutions and linearization; linear differential equations in the complex domain; solutions near regular and irregular singular points; autonomous systems; stability theory; limit cycles; perturbation theory; boundary value problems; Green's function; spectral theory. Offered Biannually.

Prerequisite: MAT 5420 with a minimum grade of C- and MAT 5610 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7210 Partial Differential Equations Cr. 3

Linear partial differential equations; fundamental solutions; distributions and their Fourier transforms; hyperbolic equations; Cauchy-Kovalevsky theorem; energy inequalities; weak solutions; propagation of singularities; elliptic equations; maximum principles; Sobolev spaces and inequalities; Garding's inequality; existence and regularity of solutions of Dirichlet problems; fundamental solutions of parabolic equations; strongly continuous semigroups. Offered Biannually.

Prerequisite: MAT 5420 with a minimum grade of C- and MAT 5610 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7220 Advanced Numerical Analysis Cr. 3

Modern iterative methods for solving systems of linear and nonlinear equations, such as: conjugate gradient method, generalized minimum residue (GMRES) method, inexact Newton's Method; Newton-GMRES, multigrid and domain decomposition methods. Offered Biannually.

Prerequisite: MAT 5100 with a minimum grade of C- and MAT 5110 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7230 Finite Element Methods Cr. 3

Topics chosen at discretion of instructor from topics similar to: regularity theory for second order elliptic partial differential equations; Hamilton-Jacobi equations; conservation laws; evolution equations; semigroup theory; calculation of variations; nonvariational methods. Offered Biannually.

Prerequisite: MAT 5100 with a minimum grade of C- and MAT 5070 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7240 Advanced Partial Differential Equations Cr. 3

Continuation of MAT 7210. Variety of topics chosen by the instructor. Offered Biannually.

Prerequisite: MAT 7210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7270 Topics in Applied Mathematics Cr. 3-4

Topics of special interest such as differential equations; calculus of variations; elliptic functions; orthogonal functions; numerical methods; systems and control theory. Topics to be announced in Schedule of Classes . Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MAT 7400 Advanced Algebra I Cr. 4

Permutation groups; Sylow Theorems; Jordan-Holder theorem; solvable and nilpotent groups; free groups; unique factorization domains; principal ideal domains; modules over principal ideal domains; linear transformations; Cayley-Hamilton theorem; free modules; noetherian rings; localization. Offered Biannually.

Prerequisite: MAT 5430 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7410 Advanced Algebra II Cr. 3

Field extensions; finite fields; Galois theory; classical applications of Galois theory; algebraic closure; tensor and exterior algebras; determinants; alternating, quadratic and hermitian forms. Offered Biannually.

Prerequisite: MAT 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7470 Topics in Algebra Cr. 3-4

Selected topics from linear algebra; homological algebra; group theory; field theory. Topics to be announced in Schedule of Classes . Offered Irregularly.

Prerequisite: MAT 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MAT 7500 Topology II Cr. 3

Smooth manifolds and maps; examples from projective spaces, from Lie groups, and from low dimensions; local coordinates; partitions of unity; tangent vectors and tangent bundles; differentials of smooth maps; vector fields; local one-parameter groups of diffeomorphisms; differential forms; integration and Stokes theorem; definition of deRham cohomology. Offered Biannually.

Prerequisite: MAT 6500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7510 Algebraic Topology I Cr. 3

Homology and its applications including fixed-point theorems; Jordan-Brouwer separation theorem; invariance of domain; CW-complexes; Kunnet theorem. Offered Biannually.

Prerequisite: MAT 5430 with a minimum grade of C and MAT 6500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7520 Algebraic Topology II Cr. 3

Cohomology ring; orientation and duality on manifolds; homotopy theory, Hurewicz theorem. Offered Biannually.

Prerequisite: MAT 7510 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7570 Topics in Geometry and Topology Cr. 3-4

Selected topics from geometry and topology; Lie groups, Riemannian and differential geometry. Offered Fall, Winter.

Prerequisite: MAT 7510 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7600 Real Analysis I Cr. 3

Lebesgue measure; general measures; measurable functions; integration (monotone and dominated convergence theorems); function spaces; Lebesgue spaces; modes of convergence; product measures; Fubini theorem. Offered Biannually.

Prerequisite: MAT 5610 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7610 Real Analysis II Cr. 3

Differentiation; relationship between differentiation and integration; Radon-Nikodym theorem; Fourier transforms; Hilbert and Banach spaces; selected topics. Offered Biannually.

Prerequisite: MAT 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7630 Introduction to Real Harmonic Analysis Cr. 3

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. Offered Biannually.

Prerequisite: MAT 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7670 Topics in Analysis Cr. 3

Topics include: advanced harmonic analysis theory, applications to PDEs, geometric analysis, Fourier analysis, advanced theory of complex variables, analysis on manifolds, advanced PDEs. Offered Yearly.

Prerequisite: MAT 7610 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7700 Advanced Probability Theory I Cr. 3

Probability spaces; random variables; expectations and moments; convergence concepts; product spaces and Kolmogorov extension theorem; separability of random processes; continuity of random processes; conditional expectation; independence. Offered Biannually.

Prerequisite: MAT 5700 with a minimum grade of C and MAT 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7710 Advanced Probability Theory II Cr. 3

Law of large numbers; characteristic functions; limit theorems; random walks; Markov processes; stationary processes; ergodic theory; martingales; stopping times. Offered Biannually.

Prerequisite: MAT 7700 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7770 Special Topics in Probability Cr. 3-4

Topics of special interest such as Markov processes; time series; ergodic theory; random equations; probability measures on algebraic structures; probability measures in Banach spaces; martingales; Brownian motion; stochastic integrals. Topics to be announced in Schedule of Classes . Offered Irregularly.

Prerequisite: MAT 7710 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MAT 7810 Advanced Statistics Theory I Cr. 3

First of two basic courses for Ph.D. students in the Mathematics Department who are interested in statistics. Topics include sample distribution theory, point and interval estimations, optimal estimates, theory of hypothesis testing, and most powerful tests. Offered Biannually.

Prerequisite: MAT 5610 with a minimum grade of C and MAT 5700 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7820 Advanced Statistics Theory II Cr. 3

Continuation of MAT 7810. Topics include regression analysis, linear models, analysis of categorical data, nonparametric statistics, decision theory, and Bayesian inference. Offered Biannually.

Prerequisite: MAT 7810 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MAT 7870 Topics in Statistics Cr. 3-4

Selected topics such as statistical estimation theory; theory of statistical hypothesis testing; non-parametric methods in statistics; statistical sequential analysis; statistical multivariate analysis. Topics to be announced in Schedule of Classes . Offered Biannually.

Prerequisite: MAT 7810 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MAT 7990 Directed Study Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MAT 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

MAT 8000 Advanced Topics in Mathematics Cr. 2-4

Topics to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 24 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

MAT 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MAT 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MAT 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MAT 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MAT 9994 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

MCT - MECHANICAL ENGINEERING TECHNOLOGY

MCT 3010 Instrumentation Cr. 3

Theory and use of measurement instruments and techniques; standards and dimensional units; experimental procedures and data analysis; sensors and transducers for parameters such as displacement, stress, strain, force, torque, temperature, motion, sound. Offered Fall, Winter.

Prerequisites: ((EET 2000 with a minimum grade of D-)) AND ((PHY 2140 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$25

MCT 3100 Mechanics of Materials Cr. 3

The elastic behavior of load bearing materials. Tension, compression, shear, combined stress, bending, torsion and columns. Failure analysis. Offered Fall, Winter.

Prerequisites: ((ET 3030 with a minimum grade of D-)) AND (May be taken concurrently: [ET 3430 with a minimum grade of D-])

Course Material Fees: \$10

MCT 3410 Kinematics and Dynamics of Machines Cr. 3

Velocity and acceleration of moving parts in machine elements and mechanisms; cam, gear, and gear train design; static and inertial forces, balancing, gyroscopic effects, and critical speeds. Offered Fall, Winter.

Prerequisite: ET 3050 with a minimum grade of C-

MCT 4150 Applied Thermodynamics Cr. 3

First and second laws of thermodynamics; power and refrigeration cycles; gas and vapor mixtures, nozzle and blade passage flow and combustion. Introduction to compressible flow. Direct energy conversion. Offered Yearly.

Prerequisites: ((ET 3430 with a minimum grade of D-))

Course Material Fees: \$10

MCT 4180 Fluid Mechanics Cr. 3

Properties of fluids, fundamentals of fluid flow, dimensional analysis and similitude, and flow measurement techniques. Analysis of hydrostatic equipment, hydrokinetic equipment and systems. Introduction to network analysis and calculation. Offered Yearly.

Prerequisites: ((ET 3030 with a minimum grade of D-)) AND (May be taken concurrently: [ET 3450 with a minimum grade of D-])

MCT 4210 Heat Transfer Cr. 3

Basic modes of heat transfer and their applications. Steady state conduction in one and two dimensions and transient conduction. Numerical and graphical methods. Heat exchanges. Condensation and boiling heat transfer. Introduction to mass transfer. Offered Yearly.

Prerequisites: (May be taken concurrently: [MAT 3450 with a minimum grade of D-]) AND ((PHY 2140 with a minimum grade of D-))

MCT 4400 Design of Machine Elements Cr. 3

Fundamental concepts in the design of the separate elements which compose the machine; application of properties and mechanics of materials modified by practical considerations. Offered Yearly.

Prerequisites: ((MCT 3100 with a minimum grade of D-)) AND ((MCT 3410 with a minimum grade of D-))

MCT 4990 Guided Study Cr. 1-6

Supervised study and instruction in the field selected by the student. Offered Irregularly.

Repeatable for 6 Credits

MCT 5210 Energy Sources and Conversion Cr. 3

Various energy sources and how they are utilized. Wind, solar, geothermal, fuel cells, storage devices, energy economics and transportation techniques, related to harnessing energy to a usable form such as electricity and heat. Offered Fall.

Prerequisites: ((ET 3430 with a minimum grade of D-)) AND ((PHY 2140 with a minimum grade of D-))

MCT 6150 Hybrid Vehicle Technology Cr. 4

Technical concepts and design, energy analysis, unified modeling approach, optimization, control; power generation, engine overview, concepts of hybridization, on-board energy storage; overview of motors, transmissions, fuel cells, future applications. Offered Yearly.

Prerequisites: ((ET 3450 with a minimum grade of D-)) AND ((PHY 2140 with a minimum grade of D-))

MD - MEDICAL DOCTOR

MD 7210 Resident Physicians in Clinical Rotations Cr. 38

Rotations through the various hospitals in the Affiliated Hospitals Program.

Restriction(s): Enrollment is limited to students with a major in Resident Physician; enrollment is limited to Medical level students.

MD 7230 Resident: WSU-Sponsored Clinical Rotation Cr. 38

Restriction(s): Enrollment is limited to Medical level students.

MD1 - MEDICAL SCHOOL: YEAR 1

MD1 0900 Year 1 First Patient Capstone Course Cr. 0

Students will develop the necessary self-directed and life-long learning skills necessary for the practice of medicine through classroom learning and independent research. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5000 Gross Anatomy Cr. 12

Normal structure and organization of the human body; lectures, small group presentations, radiologic anatomy sessions, and dissection of the human body. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5100 Histology/Embryology Cr. 6

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. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5200 Biochemistry Cr. 6

Principles of medically-related biochemistry; structure and function of proteins, energy metabolism, biochemical pathways, and gene expression. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5300 Physiology Cr. 6

Normal function of the human body: cells, tissues, musculo-skeletal, hematopoietic, and other organ systems. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5400 Medical Genetics Cr. 3

Basic genetic principles and tools of molecular genetics; preparation for application of these concepts in clinical practice. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5500 Clinical Nutrition Cr. 3

Concepts related to clinical nutrition, and their application; function of nutrients, how nutrients are used in the body, role of nutrients in disease. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5600 Neuroscience Cr. 8

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. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5710 Clinical Medicine I: Small Group Cr. 0

Clinical practice, including medical interviewing, doctor/patient communication, physical exam skills, role of professionalism in medicine. Offered Yearly.

Prerequisite: MD1 5700 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med First Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD1 5730 Population, Patient, Physician Cr. 6

Must be registered as a Year 1 medical student. Offered Winter.

Restriction(s): Enrollment is limited to Medical level students.

MD1 5800 Directed Study Cr. 1-12

Individualized curriculum designed to enhance knowledge and skills in preparation for the next phase of medical school. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 - MEDICAL SCHOOL: YEAR 2

MD2 0910 Year 2 First Patient Capstone Course Cr. 0

Students build upon the Year 1 Capstone course and continue to research the pathological finding associated with their first patient as they complete their basic science courses (abnormal systems) during their second year of medical school. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6000 Immunology / Microbiology / Infectious Disease Cr. 10

Understanding host-parasite relationships, including workings of the innate and acquired immune protective systems. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6100 Pharmacology Cr. 5

Understanding biochemical and molecular mechanisms of drug action with the anatomical distribution of drugs in the body and the physiologic responses to drugs. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6200 Psychiatry Cr. 3

Recognizing, assessing, and treating the common psychiatric disorders seen in adults and children in the general hospital setting. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6300 Pathobiology Cr. 5

Introduction to mechanisms and cellular consequences of human disease. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6400 Pathophysiology Cr. 18

Interdisciplinary course; pathophysiology of the organ systems, including respiratory, hematologic, cardiovascular, renal, dermatology/connective tissue, endocrine, gastrointestinal, and neurologic systems. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6500 Clinical Medicine II Cr. 7

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. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6510 Clinical Medicine II: Physical Diagnosis Cr. 0

Advanced physician-patient communication skills; additional competencies in physical examination and diagnosis. Offered Yearly.

Prerequisite: MD2 6500 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Second Year; enrollment is limited to students with a major in Medicine; enrollment limited to students in the Medical Doctor program; enrollment is limited to Medical level students; enrollment limited to students in a Doctor of Medicine degree; enrollment limited to students in the School of Medicine.

MD2 6520 Translational Medicine II Cr. 2

Students build upon the knowledge and skills learned in the Year 1 Translational Medicine course, focusing on the scientific method to determine causation in health/sickness and skills to translate current clinical research to patients. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students.

MD2 6600 Directed Study Cr. 1-12

Students participate in an individualized curriculum designed to enhance their knowledge and skills in preparation for the next phase of medical school. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med First Year or Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6610 Independent Study: Step 1 Preparation Cr. 1

Students will develop and implement independent study plans in preparation for taking the mandatory Step 1 United States Medical Licensing Examination (USMLE). Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD2 6650 Step 1 Summer Preparation Cr. 2-8

Students will be provided the opportunity to enhance their Step 1 examination readiness through formal classroom and independent learning. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students.

MD2 - MEDICAL SCHOOL: YEAR 3

MD3 7000 Continuity Clinical Clerkship Cr. 3

A continuity experience in which the basic skills, knowledge and attitudes necessary to manage the care of patients in an out-patient primary care setting are learned. Offered Every Term.

Prerequisite: MD3 7300 (may be taken concurrently) and MD3 7100 (may be taken concurrently) and MD3 7200 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7100 Family Medicine Clerkship Cr. 4

Practice of family medicine learned in a community-based primary care setting; experiencing care and treatment of children, adolescents, and adults with acute and chronic disease. Offered Every Term.

Prerequisite: MD3 7000 (may be taken concurrently) and MD3 7300 (may be taken concurrently) and MD3 7200 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7200 Internal Medicine Clerkship Cr. 8

Practical experience in recognition, evaluation, diagnosis, and management of hospitalized adult patients with acute non-surgical illnesses. Offered Every Term.

Prerequisite: MD3 7300 (may be taken concurrently) and MD3 7100 (may be taken concurrently) and MD3 7000 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7300 Pediatrics Clerkship Cr. 8

Practical experience in recognition, evaluation, diagnosis, and management of pediatric patients in in-patient and ambulatory care settings. Offered Every Term.

Prerequisite: MD3 7200 (may be taken concurrently) and MD3 7100 (may be taken concurrently) and MD3 7000 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7400 Surgery Clerkship Cr. 8

Practical experience in recognition, evaluation, diagnosis, and management of patients in general surgery or surgical sub-specialties. Offered Every Term.

Prerequisite: MD3 7500 (may be taken concurrently) and MD3 7600 (may be taken concurrently) and MD3 7700 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7500 Psychiatry Clerkship Cr. 4

Practical experience in recognition, evaluation, diagnosis, and management of patients with behavioral and emotional brain disorders. Offered Every Term.

Prerequisite: MD3 7400 (may be taken concurrently) and MD3 7600 (may be taken concurrently) and MD3 7700 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7600 Obstetrics and Gynecology Clerkship Cr. 8

Practical experience in recognizing, evaluating, diagnosing, and managing the health care of women in a variety of inpatient and outpatient settings. Offered Every Term.

Prerequisite: MD3 7400 (may be taken concurrently) and MD3 7500 (may be taken concurrently) and MD3 7700 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7700 Neurology Clerkship Cr. 4

Practical experience in recognition, evaluation, diagnosis, and management of patients with disorders of the nervous system. Offered Every Term.

Prerequisite: MD3 7400 (may be taken concurrently) and MD3 7500 (may be taken concurrently) and MD3 7600 (may be taken concurrently)

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7800 Directed Study Cr. 1-12

Individualized curriculum designed to enhance knowledge and skills in preparation for the next phase of medical school. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7810 Independent Study: Step 1 Extended Prep Cr. 0

Students use curricular time for continued preparation for the Step 1 board exam. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD3 7815 Year 3 General Elective Month Cr. 3

Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 - MEDICAL SCHOOL: YEAR 4

MD4 8000 Fabric of Society Cr. 6

Work with vulnerable populations and stigmatized patients including the elderly, homeless, addicted, handicapped, pregnant teens and others. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8010 Humanities in Medicine Cr. 6

Work with vulnerable populations and stigmatized patients including the elderly, homeless, addicted, handicapped, pregnant teens and others. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8020 Medical Education Cr. 6

Processes involved in evaluation of courses; coordination of the assessment of Year 1-2 courses. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8025 Curriculum Development Cr. 6

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8030 Medicine and Political Action Cr. 6

Observation and participation in medical areas that are politically in the forefront of medicine today. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8035 Students Teaching and Educating Peers Cr. 6

Students will learn and apply techniques to prepare medical students for the Step 1 examination, as well as lead Step 1 preparation sessions. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major, minor, or concentration in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8036 Independent Service Learning Cr. 3,6

Students will participate in a Service Learning Program within a community organization providing direct service to the organizations specific clientele. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major, minor, or concentration in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8040 Special Topics in Anatomy and Cell Biology Cr. 3,6

Review of research training in gross anatomy, cell biology, histology, embryology, or neuroscience. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8041 Gross Anatomy Teaching Lab Cr. 6

Students taking this elective will gain teaching and mentorship experience in preparation for a career in academic medicine by teaching freshman medical students dissection skills in the anatomy labs. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8045 Medical Ethics Cr. 6

Medical ethics issues and concerns in the ICU, PICU, NICU, as well as those associated with a medical ethics committee. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8046 Street Medicine: Detroit Cr. 3,6

Knowledge and skills necessary to promote health, prevent illness, and manage the common chronic, and minor acute primary care needs of adults who are experiencing homelessness in Detroit. Clinical Experience (CLN): students will complete 120 hours of clinical education experience during their one-month rotation Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students.

MD4 8050 General Anesthesiology Cr. 3,6

Practice of anesthesia including preoperative assessment, delivery of general and regional anesthesia, equipment use, and monitoring techniques. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8060 Pain Management Cr. 6

Diagnosis, treatment and management of acute and chronic pain syndromes related to malignant and nonmalignant diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8070 Pediatric Anesthesiology Cr. 6

Preoperative assessment, delivery of general and regional anesthesia, equipment use, and monitoring techniques in pediatric patients. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8100 Law and Medicine Cr. 3,6

Legal issues associated with practicing clinical medicine. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8120 General Dermatology Cr. 3,6

Fundamentals of diagnosing, treating and managing patients with common dermatologic disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8130 Dermatology Research Cr. 3,6

Knowledge and experience in dermatology research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8140 General Emergency Medicine Cr. 3,6

Initial evaluation, stabilization, and management of patients in the emergency department. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8145 ER Ultrasound Cr. 6

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students.

MD4 8150 Emergency Medicine Research Cr. 3,6

Process and participation in emergency medicine research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8160 Emergency Medicine Subinternship Cr. 7

Evaluation, stabilization, and treatment of a variety of patients presenting to the ER with urgent and emergent illness and trauma. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8165 Advanced Emergency Medicine Cr. 6

Being the primary provider for patients while in the ER, from initial evaluation to completion of disposition. Offered Every Term.

Prerequisite: MD4 8160 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in a Doctor of Medicine degree; enrollment limited to students in the School of Medicine.

MD4 8170 General Family Medicine Cr. 3,6

Enhancement of knowledge and skills in conducting a history/physical, diagnosing/managing patients, and participation in common office procedures in the outpatient setting. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8171 Rural Family Medicine Cr. 3-6

Students will gain a better understanding of the unique needs, challenges and rewards of practicing medicine in a medically underserved, rural or small-town community. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8172 Family Medicine Student Run Free Clinic Cr. 6

Students are involved in supervision of day-to-day operations of Student Run Free Clinic. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8175 MPH Master's Project Cr. 6

Students apply the knowledge and skills gained from classroom and field experiences to a scholarly project of their own design and execution. The final products are a written paper and an oral presentation. Offered Irregularly.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year.

MD4 8180 Clinical Aspects of Occupational Medicine Cr. 3,6

Health risks of different occupational settings; basic skills to diagnose and manage select occupational illnesses and injuries. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8210 Family Medicine Subinternship Cr. 7

Students expand on Year 3 family medicine clerkship experience with more intensive involvement in select patient populations. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8220 Hospice/Palliative Medicine Cr. 3,6

Care of terminally ill patients; basic communication and interactive skills associated with these patients and their families. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8230 Maternal and Child Health Cr. 6

Gaining experience in an aggressive family medicine OB service. Offered Yearly.

Prerequisite: MD3 7600 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in a Doctor of Medicine degree; enrollment limited to students in the School of Medicine.

MD4 8240 Research in Family Medicine Cr. 3,6

Research process; participation in family medicine research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8250 Sports Medicine Cr. 6

Knowledge and skills to assess the fitness and health risks of athletes. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8255 International Elective Cr. 6

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8258 International Away Cr. 6

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major, minor, or concentration in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8260 Allergy and Clinical Immunology Cr. 3,6

Conducting an allergic H & P; understanding basic mechanisms, pathophysiology and testing of allergic and immunologic disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8261 Advanced Physical Diagnosis Cr. 6

Students will refine their basic physical examination, as well as advance their skills in evaluating hypertension, thyroid disease, cardiac murmurs, breast abnormalities, and geriatric assessment. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8262 Ambulatory Subspecialty in Internal Medicine Cr. 6

Students will learn the practice of ambulatory internal medicine, with an emphasis placed upon bedside teaching, physical diagnosis and in-depth discussion of the clinical, diagnostic and therapeutic aspects of each case. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8264 Independent Study in Medical Education Cr. 6

Students will improve their skills as learners and critical thinkers, and gain an appreciation of the importance of lifelong learning. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8265 Urban Medicine for Visiting Students Cr. 6

Students will learn academic internal medicine in an urban setting with an emphasis on recognizing, studying, treating, and preventing disparities in healthcare. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8270 Ambulatory Med Cr. 6

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8280 Cardiology Cr. 3,6

Basic history/physical, diagnostic, treatment and management skills associated with common inpatient cardiac problems. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8281 Interventional Cardiology Cr. 6

Exposure to an interventional lab. Gaining familiarity with the clinical utility of routine cardiovascular interventions and hemodynamic measurements. Offered Yearly.

Prerequisite: MD4 8280 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in a Doctor of Medicine degree; enrollment limited to students in the School of Medicine.

MD4 8290 Cardiology Consultation Cr. 3,6

Skills needed to consult with medical and surgical patients with cardiac problems. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8310 Coronary Care Unit Cr. 6

Diagnosis and treatment of common cardiac problems; care for critically ill patients admitted to cardiac care unit. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to Medical level students.

MD4 8320 Critical Care Medicine Cr. 3,6

Management of critically ill patients to improve diagnostic, problem solving, assessment, and treatment skills. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8340 Endocrine/Bone and Mineral Metabolism Cr. 3,6

Diagnosing, treating, and managing patients with metabolic bone diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8350 Endocrinology Research Cr. 6

The research process; participation in research associated with medical endocrinology. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8360 Endocrine/Metabolism Cr. 3,6

Techniques of conducting a history and physical; diagnostic, therapeutic, and laboratory approaches to endocrine disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8365 Scholarly Writing for Critical Appraisal of Clinical Research Cr. 4

Peer review for clinical research practice. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year.

MD4 8370 Gastroenterology Cr. 3,6

Conducting a history and physical exam, and diagnosing, treating, and managing patients with common gastrointestinal diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8380 Gastroenterology Research Cr. 6

The research process; participation in specific gastroenterology research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8390 General Internal Medicine Inpatient Cr. 3,6

Common problems encountered in an internal medicine inpatient clinical setting. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8391 Internal Medicine: Miscellaneous Cr. 3,6

Students learn various topics and issues in general internal medicine. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8392 Metabolic Nutrition and Weight Management Cr. 3,6

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8395 Clinical Pharmacology Cr. 6

Four-week on-line elective where students use case-based scenarios to apply pharmacology principles in a clinical setting. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8400 Clinical Genetics Cr. 3,6

Interviewing, conducting a physical examination, and other patient interactions in patients with suspected or known genetic diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8420 Geriatric Medicine Cr. 6

Conduct of a comprehensive assessment and treatment of a geriatric patient; factors affecting the health of the elderly. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8430 Hematology Cr. 3,6

Familiarization with a variety of hematologic and oncologic disorders; how to diagnose, treat, and manage patients with these disorders.

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8440 HIV/AIDS Cr. 6

Basic knowledge and skills associated with care of HIV-infected persons in outpatient and inpatient settings. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8450 Infectious Disease Cr. 3,6

Evaluating, diagnosing and treating patients with acute and chronic infectious diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8460 Infectious Disease Research Cr. 6

The research process; participation in specific infectious disease research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8470 Internal Medicine Subinternship Cr. 7

Expanding on Year 3 internal medicine clerkship experience; more intensive involvement in select patient populations. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8480 Medicine/Pediatrics Cr. 3,6

Aspects of the day-to-day practice of a physician specializing in an internal medicine/pediatric practice. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8490 Nephrology Cr. 3,6

Experience in diagnosing and managing patients with acute and chronic nephrologic problems. Offered Every Term.

Prerequisite: MD3 7200 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8500 Nephrology Consultation Service Cr. 6

Evaluation, diagnosis, and treatment of patients with renal problems. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8510 Oncology: Medical Cr. 3,6

Evaluation, diagnosis, treatment and management of patients with oncologic conditions. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8520 Oncology: Outpatient Cr. 3,6

Cancer patients in the outpatient setting: initial evaluations, types of malignant diseases, role of staging, conducting a focused follow-up of cancer patients. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to Medical level students.

MD4 8530 Oncology Research Cr. 6

The research process; participation in research involving patients with cancer. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8540 Otolaryngology Cr. 3,6

History and basic head and neck examination on patients with otolaryngologic disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8550 Otolaryngology Medical and Surgical: Head and Neck Cr. 3,6

Additional training in otolaryngology head and neck surgery. Offered Every Term.

Prerequisite: MD3 7200 with a minimum grade of S and MD3 7400 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8560 Otolaryngology Research Cr. 6

The research process; participation in otolaryngology research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8570 Palliative Medicine Cr. 3,6

Understanding of and skills in palliative medicine: communication, cultural issues, psycho-emotional and spiritual aspects of end of life care and death and dying. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8575 Complementary Medicine Cr. 6

The world of complementary medicine: what it is, how it is different from conventional medicine, how it is practiced, and what its benefits are. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in a Doctor of Medicine degree; enrollment limited to students in the School of Medicine.

MD4 8580 Primary Care Medicine Cr. 6

Common problems encountered in internal medicine outpatient clinical setting. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8590 Pulmonary Medicine Cr. 3,6

Diagnosis and management of a variety of pulmonary disorders; diagnosis of acute and chronic respiratory failure; interpretation of pulmonary tests. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8600 Pulmonary and Sleep Research Cr. 6

The research process; participation in pulmonary and sleep research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8610 Pulmonary Consultation Cr. 6

Diagnosis and management of a variety of pulmonary disorders; diagnosis of acute and chronic respiratory failure; interpretation of pulmonary tests. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8620 Rheumatology Cr. 3,6

Diagnosis and management of common rheumatologic problems; understanding ancillary procedures and lab tests. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8630 Sleep Disorders Cr. 6

Interviewing, physical examination, diagnosis, and therapy of patients with sleep disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8640 Molecular Medicine Cr. 3,6

State-of-the-art molecular biological research and methods, relating to basic and applied research of human disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8650 General Neurology Cr. 3,6

Evaluation, diagnosis, treatment and management of patients with an array of general neurologic conditions. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8660 Neurology Consult Cr. 6

Pathogenesis, genetics, neurochemistry, imaging, diagnostic testing, presentation and treatment of Alzheimer's and other forms of dementia. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8670 Clinical Neurology of AIDS Cr. 3,6

Common neurologic manifestations of AIDS and their evaluation and management. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8680 Neurology Consultation Cr. 6

Participation with neurology physicians in consultation for patients in the ER and other inpatient services. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8690 Movement Disorders Cr. 6

Evaluation, diagnosis, treatment and management of patients with neurologic movement disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8700 Neurology - Oncology Cr. 6

Diagnosis, treatment and management of patients with malignancies of the neurologic system. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8710 Neurologic Sleep Disorders Cr. 6

Operations of a sleep lab and evaluation of patients with sleep disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8720 Neurology Research Cr. 3,6

The research process; participation in neurology research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8730 Neurology Pediatrics Cr. 3,6

Diagnosis, treatment, and management of a variety of neurologic disorders of infancy and childhood. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8740 Protective Mechanisms in the Nervous System Cr. 6

Basic mechanisms of nerve cell survival/injury; understanding the role of growth factors in the central nervous system. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8750 General Neurosurgery Cr. 3,6

Preoperative, intraoperative, and post-operative care of neurologic patients. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8760 Neurosurgery Research Cr. 3,6

Basic research principles as they apply to clinical questions in neurosurgery. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8780 General Gynecology Cr. 3,6

Signs, symptoms, and management of both surgical and nonsurgical gynecologic disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8781 Family Planning and Abortion Cr. 3-6

Students will learn the principles and counseling techniques for contraceptive management and abortion. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8790 Gynecologic Oncology Cr. 3,6

Evaluation and treatment of patients presenting with a range of gynecologic malignancies. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8800 Obstetrics Cr. 3,6

Signs, symptoms and management of normal/abnormal labor, and experience patients with intrapartum high risk conditions and intrapartum/postpartum complications. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8810 Obstetrics/Gynecology Cr. 3,6

Care of inpatient and outpatient obstetric and gynecologic patients, and participation in obstetric and gynecological procedures. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8820 Obstetrical Ultrasound Cr. 6

Basic knowledge and skills in obstetrical ultrasound. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8830 Maternal Fetal Medicine Cr. 3,6

Experience patients with common medical and obstetrical complications; development of skills in fetal assessment and evaluation of high risk pregnancies. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8850 Nurse Midwifery Cr. 3,6

Ambulatory women's health care delivery as performed by a certified nurse midwife, including management of labor and delivery. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8860 Reproductive Endocrine and Infertility Cr. 3,6

Diagnosis and treatment of couples with infertility and reproductive endocrine disorders. Offered Every Term.

Prerequisite: MD3 7600 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8870 Reproductive Genetics Cr. 3,6

Diagnostic, therapeutic and counseling procedures associated with reproductive genetics, fetal diagnosis, and fetal therapy. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8890 Ophthalmology Cr. 3,6

Conducting basic eye examinations; evaluation methods, management and treatment of eye diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8900 Ophthalmic Research Cr. 3,6

The research process; participation in ophthalmic research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8910 General Orthopedic Surgery Cr. 3,6

Conduct of an H & P, diagnosis and treatment of patients with orthopedic problems; participation in preoperative, operative, and post-operative care. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8911 Orthopedic Surgery Sports Medicine Cr. 3,6

Through the clinic and operating room settings, students will learn the assessment of the athlete, emergent care of injuries on the field, as well as common sport injuries. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8912 Orthopedic Hand Surgery Cr. 3,6

Students will learn about the care of patients with upper extremity disorders, including carpal tunnel, tendon injuries, hand fractures, arthritis of the hand and common congenital deformities. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8913 Orthopedic Foot/Ankle Surgery Cr. 3,6

Through the clinic and operating room, students will learn how to perform a history and physical exam, diagnose and treat patients that have foot or ankle complaints. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8914 Orthopaedic Surgery Research Cr. 3,6

Students participate in current orthopaedic surgery and biomechanics research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8930 Orthopedic Traumatology Cr. 3,6

Basic surgical principles and pathophysiology, diagnosis, and management of a variety of traumatic orthopedic conditions. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8940 General Pathology Cr. 3,6

Functions of a clinical laboratory, including interpretation of surgical pathology. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8950 Anatomic Pathology Cr. 3,6

Basic pathologic processes; how gross, microscopic and other techniques are applied to the diagnosis and treatment of disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8970 Forensic Pathology Cr. 3,6

Basic mechanisms of injury; characteristic features of injury patterns; relationship between medicine and law. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8980 Tumor Genetics Cr. 6

Role of cytogenetics and molecular cytogenetics in diagnosis, management and prognosis of a patient's disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8990 General Pediatrics Cr. 3,6

Evaluating and managing children with common pediatric problems; aspects of normal growth and development. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8991 Child Abuse Identification and Treatment Cr. 6

Students will learn the techniques to identify and report suspected child abuse and neglect, as well as methods of treatment and prevention. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 8992 Pediatric Pulmonary Cr. 6

Students will learn the evaluation and treatment of pediatric patients with acute and chronic respiratory diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9000 Adolescent Pediatrics Cr. 6

Interviewing and physical examination on adolescent patients; normal physical, cognitive and psychosocial development of adolescent patients. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9010 Allergy, Immunology, and Rheumatology Cr. 3,6

Day-to-day care of pediatric patients with common allergic, immunologic and rheumatologic disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9040 Developmental Behavioral Pediatrics Cr. 6

Distinguishing normal from abnormal development; approaches to assessment of disorders of learning and development. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9050 Pediatric Genetics Cr. 3,6

Abnormal morphology of children; diagnostic skills in various inborn errors. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9060 Medical Toxicology and Poison Control Cr. 6

Assessment and management of pediatric patients with suspected or known poisoning or toxic exposure. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9070 Neonatology Cr. 3,6

Evaluation of healthy newborns; common newborn conditions; care of high risk infants and their mothers. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9080 Pediatric Cardiology Cr. 3,6

Skills in taking and performing a cardiac exam; normal hemodynamics; natural history of children with congenital and acquired heart disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9090 Pediatric Ear, Nose and Throat Cr. 3,6

Entire scope of pediatric otolaryngology. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9100 Pediatric Emergency Medicine Cr. 3,6

Observation and participation in care of children presenting with a wide range of conditions in pediatric emergency medicine. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9110 Pediatric Endocrinology and Diabetes Cr. 3,6

Evaluation of normal physical growth and development; recognition of common pediatric endocrine problems. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9120 Pediatric Gastroenterology, Hepatology, and Nutrition Cr. 3,6

Performance of a history and physical exam, development of a diagnosis, and caring for patients with disorders of the gastrointestinal tract. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9130 Pediatric Hematology/Oncology Cr. 3,6

Basic skills to conduct an H & P and diagnose and treat children with hematologic and oncologic problems. Offered Every Term.

Prerequisite: MD3 7300 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9140 Pediatric Infectious Disease Cr. 6

Evaluation, diagnosis, treatment, and management of common pediatric infections. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9150 Pediatric Intensive Care Cr. 3,6

Basic diagnostic and therapeutic approach to care of critically ill children. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9160 Pediatric Nephrology Cr. 3,6

Basic skills to examine, diagnose and treat patients with common renal diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9170 Pediatric Neurology Cr. 3,6

Performance of a complete neurological history, examination, and ordering of appropriate laboratory tests to diagnose and manage pediatric patients with neurologic disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9180 Pediatric Pathology: Autopsy and Surgical Cr. 3,6

Correlation of clinical, anatomical and laboratory findings in diagnosing pediatric disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9190 Pediatric Plastic Surgery/Craniofacial Cr. 3,6

Recognition and development of a treatment plan for congenital craniofacial anomalies and vascular lesions. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9200 Pediatric PMR Cr. 3,6

Childhood functional impairments including head injury, spinal cord injury, cerebral palsy, neuromuscular diseases, sports medicine, and electromyography. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9210 Pediatric Subinternship Cr. 7

Senior students expand upon Year 3 pediatric clerkship experience with more intensive involvement in select patient populations. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9230 Physical Medicine and Rehabilitation Cr. 3,6

Performance of an H & P; development of greater understanding of diagnosis, management and treatment of patients with neuromuscular and musculoskeletal problems.] Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9240 Spinal Cord Injury Rehabilitation Cr. 3,6

Management of patients with spinal cord injuries; role of rehabilitation team approach to spinal cord injuries. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9250 Traumatic Brain Injury Rehabilitation Cr. 3,6

Management of patients with traumatic brain injuries; role of a rehabilitation team in management of patients with traumatic brain injuries. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9260 Brain Imaging of Childhood Onset of Neuropsychiatric Disorders Cr. 3,6

Brain imaging techniques; neurodevelopmental approaches. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9261 Emergent and Consult Liaison Psychiatry Cr. 3,6

Students will learn to assess psychiatric patients, manage acute intoxication and withdrawal syndromes, manage psychiatric patients with medical comorbidities and learn basic managed care principals. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9262 Emergency Psychiatry Cr. 3-6

Students will learn to evaluate, diagnose, and treat psychiatric patients in an emergency setting. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9263 Clinical Electro-Physiology Research Cr. 3-6

Students will participate in the academic research process, as well as learn the strengths and weakness of the different electrophysiological testing modalities. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9264 Psychiatry Research Cr. 3,6

Students will participate in research projects and learn the clinical components associated with neuropsychiatric research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9265 Outpatient Psychiatry Cr. 3-6

The student will observe routine outpatient practice and have an opportunity to evaluate new outpatients under the supervision of residents/staff. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9270 Child and Adolescent Psychiatry Cr. 3,6

Experience of a variety of children and adolescents with psychiatric disorders; evaluation of patients and provision of care. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9290 Psychiatric Consultation Cr. 3,6

Knowledge and skills associated with the psychiatric interview; mental status examination; development of knowledge base in behavioral medicine and treatment of psychiatric illness. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9300 Psychiatry: Geriatrics Cr. 3,6

Knowledge and skills associated with the psychiatric interview; mental status examination; interpretation of data, diagnosis, psychopharmacology and psychotherapy in geriatric patients. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9310 Psychotherapy Elective Cr. 3,6

Psychodynamic, cognitive, and group therapies; observation and participation in psychotherapeutic encounters. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9320 Research and Practice in Addiction Psychiatry Cr. 3,6

Diagnosis and management of individuals with addictive disorders; psychotherapeutic and pharmacotherapeutic interventions for problems with psychotropic substances. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9340 Substance Abuse Cr. 3,6

Inpatient and outpatient treatment of substance use disorders. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9345 Psychiatric Care of Veterans Cr. 6

Clinical Experience; Students will complete 160 hours of clinical education experience during their one-month rotation. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students.

MD4 9350 General Diagnostic Radiology Cr. 3,6

Basic techniques of imaging; skills to diagnose and interpret radiographic studies. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9360 Intervention Radiology Cr. 3,6

Role of interventional radiologic techniques in diagnosis and management of disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9370 Nuclear Medicine Cr. 3,6

Performing and interpreting clinical nuclear medicine procedures; role of nuclear medicine in clinical practice. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9380 Radiation Oncology Cr. 3,6

Role of radiation therapy in variety of adult and pediatric malignancies. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9390 General Surgery Cr. 3,6

Experience in a variety of elective and acute surgical cases; diagnostic skills; basic surgical techniques and procedures. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9392 Advanced Surgical Skills Cr. 6

Students will learn advanced surgical skills in preparation for their surgery residency program. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9393 Breast Surgery Cr. 6

Students will gain exposure to the diagnosis and treatment of breast diseases at the Walt Comprehensive Breast Center. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9400 Acute Burn Care Cr. 6

Physiologic principles and clinical management of burn victims. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9410 Cardiovascular Surgery Cr. 3,6

Diagnosis and treatment of cardiologic diseases using invasive surgical approaches. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9430 Gastrointestinal Surgery Cr. 6

Pathophysiology and management of gastrointestinal surgical diseases. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9440 Pediatric Surgery Cr. 3,6

Diagnosis and care of surgical disorders in children. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9450 Surgery Research Cr. 6

The research process; participation in surgical research. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9470 Plastic and Reconstructive Surgery Cr. 3,6

Evaluation, formulation of treatment plan, management of postoperative care, and participation in surgical procedures for patients requiring plastic surgery. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9480 Surgical Intensive Care Unit Cr. 3,6

Care of critically ill surgical patients; common surgical intensive care unit procedures. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9490 Surgery Subinternship Cr. 7

Senior students expand upon their Year 3 surgery clerkship experience with more intensive involvement in select patient populations. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9495 Advanced Maxillofacial Surgery Cr. 7

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9500 Transplant Surgery Cr. 3,6

Basic surgical principles and pathophysiology, diagnosis and management of a variety of transplant surgical conditions. Offered Every Term.

Prerequisite: MD3 7200 with a minimum grade of S and MD3 7400 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9510 Acute Care Surgery Cr. 3,6

Evaluation, diagnosis, treatment, and management of critically ill patients; basic procedures in the care of this population. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9520 Vascular Surgery Cr. 3,6

Pathophysiology, evaluation, diagnosis, and management of patients needing vascular surgery; participation of procedures for this population. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9528 Maxillofacial Surgery Cr. 6

In-depth exposure to the field of maxillofacial surgery and its subspecialties of trauma, oncology, and micro-vascular reconstruction. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9530 General Urology Cr. 3,6

Pathophysiology, evaluation, diagnosis and management of patients with urologic disease; participation in urologic surgery. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9535 Step 2 Preparation Cr. 0

Students use this curricular time to prepare for the Step 2 board exam. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment limited to students in the School of Medicine.

MD4 9540 Male Reproductive Medicine Cr. 3,6

Understanding of the basic physiology of sperm production and photophysiology that lead to infertility and sexual dysfunction. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine.

MD4 9545 Step 2 Preparation Cr. 1

Students will be introduced to methods for successfully passing the mandatory Step 2 CK United States Licensing Examination (USMLE). Offered Irregularly.

Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MD4 9999 Year 3 Additional Course Work Cr. 0

Students complete Year 3 course work prior to starting Year 4 course work. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

MDR - MEDICAL RESEARCH

MDR 7090 Fellowship Writing Cr. 2

Preparation and submission of fellowship applications to national funding agencies such as the NIH. Advanced scientific communication, including bibliographic and online resources, organization of federal funding agencies, composition and function of study sections, NIH grant application process, fellowship writing, Institutional Review Boards (IRBs). Students work with faculty and research mentors to prepare and submit applications. Offered Fall.

Restriction(s): Enrollment limited to students in the MD & PHD program; enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

MDR 7100 Clinical Research Design Cr. 2

Design and implementation of authorized clinical research projects, with exposure to such topics as drug discovery, study design, obtaining FDA approval, subject recruitment and retention, data management, translational and biotechnological aspects, GCRC, and bioinformatics; preparation for establishment of career in clinical and translational research. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the MD & PHD program; enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

MDR 7110 Clinical Field Experience Cr. 2

Complexity of the disease process from initial presentation of patient in a clinic, to understanding the pathophysiological basis of the disease, to diagnosis, treatment, and patient management; application of clinical and laboratory research training and current technology. Topics may include: diabetes, sickle cell anemia, asthma, seizures, hypertension, congestive heart failure, chronic myeloid leukemia, genetics of cancer, stroke, lupus. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the MD & PHD program; enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

Repeatable for 2 Credits

MDR 7420 Topics in International Health Medicine Cr. 2

Clinical trainees are exposed to topics in understanding and managing health care and other needs of children involved in international travel, as well as of children adopted locally from other countries. One-hour biweekly lectures by experts in various areas of international health. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

MDR 7990 Directed Study in Pediatric Global Health Cr. 4

Clinical trainees develop and execute research projects in international settings, using international and culturally sensitive protocols and regulations. Conducting research in clinical areas at partnering sites in India and China. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Medical Research; enrollment is limited to Graduate level students; enrollment limited to students in a MS in Medical Research degree.

Repeatable for 8 Credits

ME - MECHANICAL ENGINEERING

ME 2050 Introduction to Computer-Aided Mechanical Drafting Cr. 2

Introduction to CAD system using available software system at the college computer center, including AutoCAD. Offered Fall, Winter.

ME 2200 Thermodynamics Cr. 3

Transformation of heat energy to other energy forms. Basic concepts and laws of thermodynamics. Thermodynamic properties and processes for simple substances. Applications to power and refrigeration cycles. No credit after ME 2210. Offered Fall, Winter.

Prerequisites: ((MAT 2020 with a minimum grade of C-) AND ((PHY 2175 with a minimum grade of C-) AND (May be taken concurrently: [BE 1200 with a minimum grade of C-])

ME 2410 Statics Cr. 3

Basic concepts and principles of statics with applications to Newton's Laws of Motion to engineering problems. Forces, moments, equilibrium, couples, free body diagrams, trusses, frames, fluid statics, friction, area and mass moment of inertia. Offered Yearly.

Prerequisites: ((MAT 2020 with a minimum grade of D-) AND ((PHY 2175 with a minimum grade of D-))

Equivalent: CE 2410

ME 2420 Elementary Mechanics of Materials Cr. 3

Elastic relationships between external forces acting on deformable bodies and the associated stresses and deformations; structural members subjected to axial load, torsion, and bending; column buckling; combined stresses; repeated loads; unsymmetrical bending. Offered Yearly.

Prerequisites: ((ME 2410 with a minimum grade of C-) OR [CE 2410 with a minimum grade of C-]) AND (May be taken concurrently: [BE 1300 with a minimum grade of C-] OR [BE 1310 with a minimum grade of C-])

Equivalent: CE 2420

ME 2500 Numerical Methods Using MATLAB Cr. 2

Developing numerical solutions for engineering problems using MATLAB. Evaluation of alternative approaches to the numerical solutions in terms of accuracy and efficiency. Offered Fall, Spring/Summer.

Prerequisites: ([BE 1500])

Restriction(s): Enrollment is limited to Undergraduate level students.

ME 3300 Fluid Mechanics: Theory and Laboratory Cr. 4

Introduction to the nature and physical properties of fluids, statics, equation of motion, incompressible inviscid flow, dimensional analysis, incompressible one-dimensional compressible channel flow. Experiments to supplement lectures. Offered Fall, Winter.

Prerequisites: ((ME 2200 with a minimum grade of C-) OR [ME 2210 with a minimum grade of C-]) AND ([BE 1500 with a minimum grade of C-] OR [BE 2550 with a minimum grade of C-]) AND (May be taken concurrently: [ME 2500 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ME 3400 Dynamics Cr. 3

Basic concepts and principles of dynamics with application of Newton's Laws of Motion to engineering problems. Kinematics and kinetics of particles and rigid and variable-mass bodies. Equations of motion, impulse-momentum, impact and work-energy principles. Offered Fall, Winter.

Prerequisites: ((ME 2410 with a minimum grade of C-) AND ((MAT 2150 with a minimum grade of C-))

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

ME 3450 Manufacturing Processes I Cr. 3

A study of the field of manufacturing processes from a mechanical engineering design standpoint. Topics include: processing of metals, polymers and ceramics, and computer-aided manufacturing. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [ME 2420 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

Equivalent: IE 3450

ME 4150 Design of Machine Elements Cr. 4

Static body stresses, strain and deflection, failure theories, introduction to impact loading and fatigue. Design of common mechanical elements: threaded fasteners, rivets, welding and bonding, springs, lubrication and sliding bearings, rolling element bearings. Offered Every Term.

Prerequisites: ((ME 3450 with a minimum grade of C-) AND ([BE 2100 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

ME 4210 Heat Transfer: Theory and Laboratory Cr. 4

Fundamental concepts and basic modes of heat transfer. General equation of heat conduction, steady state heat conduction on one and more dimensions. Transient heat conduction. Heat transfer by radiation, Kirchoff's law and the black body. Radiation between diffuse surfaces. Radiation from gases, vapors and flames. Introduction to heat convection; concept of heat transfer coefficient and Nusselt number. Lab experiments to supplement lectures. Offered Fall, Winter.

Prerequisite: ME 3300 with a minimum grade of C- and ENG 3050 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

ME 4300 Thermal Fluid Systems Design Cr. 4

Design of thermal-fluid systems to meet system performance requirements, computer-aided design, system simulation, design optimization including investment economics. Offered Fall, Winter.

Prerequisite: ME 4210 with a minimum grade of C- and ENG 3060 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

ME 4410 Vibrations: Theory and Laboratory Cr. 4

Fundamentals of dynamic principles, energy relation and Rayleigh's principle. Undamped and damped free vibration of one degree of freedom systems. Forced vibrations with harmonic excitation. Vibration isolation, critical speed of shafting. Experiments to supplement theory. Offered Fall, Winter.

Prerequisite: ME 3400 with a minimum grade of C- and ENG 3050 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

ME 4420 Dynamic Modeling and Control of Engineering System Cr. 4

Mathematical modeling of linear, lumped, time-invariant systems, open and closed loop systems, single-input-single-output system design using root locus method. Offered Fall, Winter.

Prerequisite: ME 3400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment is limited to Undergraduate level students.

ME 4500 Mechanical Engineering Design II Cr. 4

Involve teamwork on semester-long open-ended design project. Develop design concepts based on various design theories, analyze alternative solutions and identify "best design solution" within given constraints. Students perform patent literature search, design, fabricate, develop and test prototypes. Perform product verification and validation. Require submission of formal progress reports, a final written report and a public presentation. Course satisfies Writing Intensive course requirement. Offered Fall, Winter.

Prerequisites: ([ME 4150 with a minimum grade of C-] OR [ME 4250 with a minimum grade of C-]) AND ([ENG 3060 with a minimum grade of C-]) AND ([BE 2250 with a minimum grade of C-] OR [ME 2500 with a minimum grade of C-]) AND (May be taken concurrently: [ME 4410 with a minimum grade of C-])

Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering; enrollment limited to students in the College of Engineering.

Course Material Fees: \$25

ME 5000 Engineering Analysis I Cr. 4

Applications of ordinary differential equations. The method of Frobenius, Bessel functions, Legendre polynomials. Orthogonality of characteristic functions. Fourier series and Fourier integrals. Characteristics and solutions of partial differential equations. Method of separation or variations. Applications to initial and boundary value problems in engineering. Offered Fall.

Course Material Fees: \$5

ME 5040 Finite Element Methods I Cr. 4

Introduce finite element methods and review solid mechanics concepts and formalisms, variational methods and potential energy principles. Emphasize the basic understanding of the finite element method including its physical and mathematical principles, numerical procedures and their implementation. Define displacement-based formulations of spring, bar, beam, plane strain and plane stress elements along with isoparametric element formulation, assembly of elements and solution of global stiffness equations. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5100 Quantitative Physiology Cr. 4

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. Offered Winter.

Prerequisites: ([BME 5005 with a minimum grade of C] OR [BME 2010 with a minimum grade of C])

Equivalent: BME 5010, CHE 5100, ECE 5100, IE 5100

ME 5110 Fundamental Fuel Cell Systems Cr. 4

Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5110, CHE 5110, EVE 5130

ME 5115 Fundamentals of Electric-drive Vehicle Engineering Cr. 4

Cover engineering fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: EVE 5110

ME 5120 Fundamentals of Alternative Energy Technology Cr. 4

Provide an overview/review of thermodynamics. Cover advanced thermodynamics topics of energy and chemical reacting systems. Introduce general areas of alternative energy technology, engineering analysis and design of solar angle/time/radiation, solar heating, solar photovoltaic, and wind power. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5120

ME 5160 Musculoskeletal Biomechanics Cr. 4

Structure and properties of the major tissue components of the musculoskeletal system and evaluation of how tissues combine to provide support and motion to the body. Offered Winter.

Prerequisites: ([BME 5010] OR [BME 6550] OR [BMS 5550])

Equivalent: BME 5210

ME 5170 Design of Human Rehabilitation Systems Cr. 4

Design, fabrication and testing of customized hardware to aid handicapped patients. Offered Fall.

ME 5180 Introduction to Biomaterials Cr. 4

Introduction to study of both biological materials (bone, muscle, etc.) and materials for medical applications. Topics include tissue properties and effects of pathology, biocompatibility, and design considerations. Offered Yearly.

Prerequisites: ([BE 1300 and BME 5010] OR [BMS 6550] OR [BMS 5550])

Equivalent: BME 5370

ME 5210 Convective and Radiative Heat Transfer Cr. 4

Introduce radiative processes, properties of solids, radiative heat transfer among surfaces in an enclosure and gas radiation. Derive energy equation for laminar flows. Apply semi-empirical correlations for forced and free convection of laminar and turbulent flows. Implement analytical methods for convective heat transfer and heat exchange analysis. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5215 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4

Cover fundamental electrochemistry and engineering aspects for electric propulsion batteries including lead acid, nickel metal hydride, lithium ion and capacitor technologies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: AET 5310, CHE 5120, EVE 5120

ME 5300 Intermediate Fluid Mechanics Cr. 4

Introduce fluid kinematics entailing vector field, potential flows, vorticity along with the computation of particle trajectory in a given velocity field and near stagnation points. Define basics of fluid dynamics including stress tensor in fluids, Navier-Stokes equations, Euler's equations, properties of solutions of Euler's equations, Bernoulli's integral and role of viscosity. Extend the analysis to two-dimensional potential flows and vortex flows. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5330 Advanced Thermal Fluid System Design Cr. 4

Involve teamwork on semester-long open-ended design project of thermal fluid systems to meet performance requirements using sound design process and system engineering approach. Apply engineering principles and computational design software to analyze and optimize system or subsystem processes. Offered Fall, Winter.

Prerequisites: ([ENG 3060 and ME 4210])

Restriction(s): Enrollment limited to students in the College of Engineering.

ME 5400 Dynamics II Cr. 4

Cover three-dimensional kinematics and kinetics of rigid bodies, Euler angles, angular momentum, D'Alembert Principle, equations of motion in general rotating coordinate frames. Derive Lagrange's equation of motion for particles and rigid bodies. Introduce Lagrange multipliers, holonomic and non-holonomic constraints, virtual work principle, and Hamilton's Principle. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$10

ME 5410 Vibrations II Cr. 4

Review the vibration response of two-degree-of-freedom systems including frequency response function. Extend the analysis to multi-degree-of-freedom systems including eigenvalues (natural frequencies) and orthogonality of eigenvectors (normal modes). Introduce numerical and experimental modal analysis techniques. Formulate the boundary-value problem for the vibration of continuous structural elements such as rods, strings, and beams. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5425 Analysis of Vibration Movements and Instrumentation Cr. 4

Basic tools and instrumentation, such as spectral analyzers to measure and analyze vibration time histories of excitation and response signals (stationary or non-stationary) in the time and frequency domains. Fast Fourier transform, frequency time analyses. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$20

ME 5440 Industrial Noise Control Cr. 4

Basic and advanced measurement techniques to acquire various acoustic quantities in a non-ideal environment including measurements of pressure, power and intensity of sound levels, reverberation time, absorption, coefficients of materials, room acoustics, and modal analysis. Cover noise reduction and control strategies for engineering applications. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Engineering.

ME 5453 Automotive Manufacturing Systems and Processes Cr. 4

Introduce principles and methodologies of automotive assembly systems and processes. Cover operation management, quality management, principle of system development, planning and analysis of assembly systems and supportive functions, assembly processes, automatic and manual operations, management of tooling development and honing processes of sheet metal parts. Offered Spring/Summer.

Prerequisite: ME 3450 with a minimum grade of C- or ME 4250 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5460 Fundamentals in Acoustics and Noise Control Cr. 4

Introduce principles of sound generation, propagation and interaction with solid boundary surfaces, as well as engineering noise control applications. Gain hands-on experience on simulating sound radiation and interactions with solid boundaries, and estimating sound transmission through partitions. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5500 Advanced Engineering Design Cr. 4

Involve teamwork on semester-long open-ended design project. Develop design concepts based on various design theories, analyze alternative solutions and identify "best design solution" within given constraints. Students perform patent literature search, design, fabricate, develop and test prototypes. Perform product verification and validation. Require submission of formal progress reports, a final written report and a public presentation. Course satisfies Writing Intensive course requirement. Offered Fall, Winter.

Prerequisites: ([BE 2550, ENG 3060, and ME 4250])

Course Material Fees: \$25

ME 5580 Computer-Aided Mechanical Design Cr. 4

Introduce aspects of constraint-based solid modeling and parametric modeling using Unigraphics, Solid Edge, I-DEAS and Pro-E. Develop intelligent solid models with application to data management and sheet metal design. Introduce computer-aided simulation and manufacturing. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5620 Fracture Mechanics in Engineering Design Cr. 4

Introduce linear and nonlinear fracture mechanics principles and their applications to structural design. Formulate fracture parameters based on energy methods and stress-intensity factors for linear elastic fracture mechanics (LEFM), J-Integral and crack tip opening displacement (CTOD) for elastic plastic fracture mechanics (EPFM). Introduce design concepts based on failure assessment diagram and damage tolerance. Cover crack growth mechanisms, crack closure and crack retardation concepts. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5700 Fundamentals of Mechanics Cr. 4

Introduce Lagrangian and Hamiltonian classical mechanics. Derive thermodynamics laws from mechanics. Cover continuum kinematics and basics of tensor analysis, continuum mechanics (basic laws; thermodynamics of continuum media; classical continuum models). Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$5

ME 5720 Mechanics of Composite Materials Cr. 4

Develop a comprehensive understanding of analytical models of micro-mechanical and macro-mechanical behavior of composite materials. Conduct stiffness, strength, hydrothermal, laminate, viscoelastic, dynamic behavior and fracture analyses. Introduce experimental characterization procedures for mechanical behavior evaluation. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5730 Tribology and Lubrication Technology Cr. 4

Introduce friction, wear, and lubrication fundamentals including wear mechanisms, application of coatings, surface engineering fundamentals, measurement of surface topological features and surface wear. Offered Yearly.

ME 5780 Products Liability Introduction for Engineers Cr. 1

Application of engineering practice to minimize products liability exposure. Stages of a products liability lawsuit; how engineers may be involved at different stages of the process. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters or Senior; enrollment limited to students in the College of Engineering.

Equivalent: IE 5780

ME 5800 Combustion Engines Cr. 4

Cover thermodynamics and cycle analysis of spark and compression ignition engines. Introduce combustion processes in actual systems, engine performance characteristics and engine modeling. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5810 Combustion and Emissions Cr. 4

Define air quality and emissions standards. Cover fundamentals of emission formation in combustion systems, wall quenching and imperfect combustion, unburned hydrocarbons, carbon monoxide, aldehydes, nitrogen oxides, species stratification in the combustion chamber, and particulates. Discuss the effects of design parameters and engine operating variables on emission formation. Introduce chemical kinetics simulation. Offered Winter.

Prerequisite: ME 5800 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5820 Thermal Environmental Engineering Cr. 4

Design and analyze heating, ventilating and air-conditioning systems. Introduce moist air properties calculations, heat transfer and transmission coefficients, heating load, cooling load, heating and cooling equipment, duct design, fans, air distribution, and refrigeration principles. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5900 National Design Competition Projects Cr. 1-4

Offered Every Term.

Repeatable for 998.99 Credits

ME 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 6 Credits

ME 5992 Research Experiences for Undergraduates Cr. 1-4

Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

ME 5995 Special Topics in Mechanical Engineering I Cr. 1-4

Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment limited to students in the College of Engineering.

Repeatable for 8 Credits

ME 6180 Biomedical Instrumentation Cr. 4

Engineering principles of physiological measurements. Signal conditioning equipment, amplifiers, recorders and transducers. Recent advances. Offered Winter.

Prerequisites: ([BME 5010, BME 5020, and ECE 3300] OR [BMS 6550] OR [BMS 5550])

Equivalent: BME 6480, ECE 6180, IE 6180

ME 6550 Modeling and Control of Dynamic Systems Cr. 4

Introduce state-space representation of dynamical systems, apply Lyapunov stability criteria, and examine controllability and observability of systems. Design linear state feedback controllers using pole-placement technique and formulate full- and reduced-order linear state observers such as Luenberger observer. Design linear model following controller and linear quadratic optimal controllers. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$5

ME 6991 Internship in Industry Cr. 1-4

Written report describing internship experience. Offered Every Term.

Repeatable for 4 Credits

ME 7020 Finite Element Methods II Cr. 4

Introduce isoparametric elements, plate and shell elements. Perform dynamic analysis of structures (explicit versus implicit methods). Formulate problems with geometric, materials, and/or contact nonlinearities. Introduce hybrid variational techniques, Cover examples dealing with solids, fluids and heat transfer by utilizing commercially available software such as HyperMesh, OptiStruct, LS/DYNA and ANSYS. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7100 Mathematical Modeling in Impact Biomechanics Cr. 3-4

Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.

Prerequisites: ([BME 5010 and ME 3400] OR [BMS 6550] OR [BMS 5550])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7100, ECE 7100, IE 7100

ME 7160 Impact Biomechanics Cr. 4

Biomechanical response of the body regions and the whole body to impact. Mechanisms of injury in blunt impact. Effects of restraints on injury reduction. Development of test surrogates such as dummies. Offered Fall.

Prerequisites: ([BME 5010] OR [BMS 6550] OR [BMS 5550])

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

Equivalent: BME 7160, ECE 7160

ME 7180 Advanced Topics in Biomaterials and Tissue Mechanics Cr. 4

Seminar format: advanced topics presented to the class; lectures by the instructor and by the participants based on literature reviews. Topics determined by student interest. Offered Biannually.

Prerequisites: ([BME 5210] OR [BME 5370])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7300, MSE 7180

ME 7195 Tissue Biomechanics Cr. 4

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. Offered Biannually (Fall).

Prerequisites: ([BME 5010, BME 5020, and BME 5210] OR [BMS 6550] OR [BMS 5550])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7210

ME 7260 Heat and Mass Transfer Cr. 4

Introduce transport phenomena and rate equations. Formulate heat and mass transfer problems using lumped, differential and integral formulations. Solve these problems using the method of separation of variables, partial solutions, variation of parameters, superposition, Laplace transformation and Duhamel Integral for problems with time-dependent boundary conditions. Apply these concepts to various thermal and combustion systems. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7290 Advanced Combustion and Emissions I Cr. 4

Introduce thermodynamics of chemically reacting mixtures, oxidation mechanisms of hydrocarbon fuels, theories of explosions, structure of pre-mixed hydrocarbon flames, propagation of laminar premixed flames, pre-mixed turbulent flames, kinetics of nitrogen oxides formation, combustion and emissions in spark ignition engines and control strategies. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$5

ME 7300 Advanced Fluid Mechanics Cr. 4

Understand the physics of governing equations of conservation of mass, momentum, energy, and other scalar properties in transport processes. Express the numerical aspects of the transport processes in finite volume approach and pressure-based solution algorithm. Introduce physical models of turbulence, multi-phase and reacting flows. Acquire hands-on experience of formulation, meshing, simulation, post-processing and presentation to solve engineering problems. Stress the importance of CFD encountered in real-life engineering applications. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7310 Computational Fluid Mechanics and Heat Transfer Cr. 4

Understand the physics of governing equations of conservation of mass, momentum, energy, and other scalar properties in transport processes. Express the numerical aspects of the transport processes in finite volume approach and pressure-based solution algorithm. Introduce physical models of turbulence, multi-phase and reacting flows. Acquire hands-on experience of formulation, meshing, simulation, post-processing and presentation to solve engineering problems. Stress the importance of CFD encountered in real-life engineering applications. Offered Fall.

Prerequisite: ME 5300 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

ME 7315 Electric-drive Vehicle Modeling and Simulation Cr. 4

Cover modeling, simulation and control of electric-drive vehicle powertrain including plant modeling, controls model development, and in-the-loop controls testing. Proficiency in MATLAB/Simulink is required. . Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: EVE 7310

ME 7400 Advanced Dynamics Cr. 4

Introduce physical concepts and formalisms of Newtonian, Lagrangian, and Hamiltonian mechanics. Formulate calculus of variations including Hamiltonian least action principle and Euler-Lagrange equation. Develop the boundary-value problem of continuous elastic structures using Hamilton's principle. Model strongly nonlinear dynamical systems involving impact, non-smooth and discontinuous loads. Offered Winter.

Prerequisite: ME 5400 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$5

ME 7410 Vibrations of Continuous Systems Cr. 4

Model and solve boundary-value problems of vibration for continuous elastic structures using approximate algorithms and computational schemes. Assess the effects of boundary conditions on the eigenvalue problem of geometrically nonlinear elastic structures. Offered Winter.

Prerequisite: ME 5400 with a minimum grade of C- and ME 5410 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7420 Random Vibrations Cr. 4

Introduce statistical parameters of random vibration such as mean, mean square, correlation function, power spectral density, cumulant and moment generating function. Define Brownian motion process, white noise, Markov processes, and Fokker-Planck-Kolmogorov equation. Develop stochastic calculus rules (Itô and Stratonovich integrals) and stochastic averaging. Generate random response statistics of single- and two-degree-of-freedom systems. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7440 Signal Processing Technologies and Their Applications Cr. 4

Develop advanced signal processing techniques for analyzing transient signals containing discontinuities and sharp spikes with applications to such fields as blind sources separation, de-noising time-domain signals, etc. Acquire hands-on experience with software such as LabVIEW to set up experiments and analyze data. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7451 Advanced Manufacturing II: Material Forming Cr. 4

Cover classical theory of plasticity and basic equations, deformation behavior and constitutive equations of materials, deformation mechanisms related to microstructures, mechanical analyses of various forming processes, experimental study on material properties, microstructure evolution and forming mechanics. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7460 Advanced Acoustics and Noise Control Cr. 4

Introduce advanced techniques in near-field acoustical holography for visualizing acoustic fields, analyzing vibro-acoustic correlations and identifying the critical vibration components responsible for acoustic radiation from a vibrating structure. Offered Biannually (Winter).

Prerequisite: ME 5460 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7480 Nonlinear Vibration Cr. 4

Categorize nonlinearities in mechanical systems and qualitatively describe their effects on the dynamic response. Introduce the concepts of phase portrait, limit cycles, dynamic characteristics of Duffing and Van der Pol oscillators, parametric vibration and parametric resonance. Outline nonlinear techniques such as harmonic balance, averaging method, and multiple scales methods to analyze nonlinear modal interaction (internal resonance), vibro-impact dynamics and chaotic motion. Offered Fall.

Prerequisite: ME 5410 with a minimum grade of C- and ME 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ME 7550 Control of Dynamic Systems Cr. 4

Formulate static optimization problems with equality constraints, system identification, parameter optimization using Lyapunov's method. Introduce calculus of variations including dynamic optimization with equality constraints and apply them to formulate linear regulator and tracking problems. Introduce Pontryagin's minimum principle and state inequality constraints. Solve minimum-time problems and minimum control-effort problems. Offered Winter.

Prerequisite: ME 6550 with a minimum grade of C- or ECE 5470 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$5

ME 7590 Nonlinear Control Systems Cr. 4

Provide examples of nonlinear dynamical control systems, perform system analysis using phase-portrait, and examine stability using Lyapunov's direct method and invariant set theorems (local and global stability). Introduce describing function method, feedback linearization technique, internal dynamics, and zero-dynamics. Design nonlinear robust controllers. Offered Fall.

Prerequisite: ME 6550 with a minimum grade of C- or ECE 5470 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Equivalent: ECE 7420

ME 7610 Theory of Elasticity Cr. 4

Define boundary value problems of linear elasticity. Cover variational principles in linear elasticity along with theory of beams, plates and shells. Introduce homogenized description of composite materials. Offered Fall.

Prerequisite: ME 5700 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

Course Material Fees: \$5

ME 7680 Manufacturing Processing Mechanics Cr. 4

Perform finite element analysis (FEA) of non-linear large strain deformation problems using the software ABAQUS. Cover thermal-mechanical coupled deformation problems involving micro-manufacturing of micro-electronic mechanical systems (MEMS), electronic packaging, composite curing, creep-fatigue of micro-system and large plastic deformation in metal forming. Offered Yearly.

Prerequisite: ME 5040 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7720 Advanced Mechanics of Composite Materials Cr. 4

Conduct a review on tensor notation with application to stress strain and constitutive equations. Develop damage tolerance analysis and approaches including durability of composite materials and structures. Conduct extensive literature review and independent focused research on the above topics that encompass advanced models and their applications. Offered Winter.

Prerequisite: ME 5720 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

ME 7820 Engineering Non-Destructive Evaluation (NDE) Methods and Industrial Applications Cr. 4

Cover basic and advanced non-destructive evaluation methods used in industry. Treat in-depth the physics and engineering NDE applications of ultrasonics, vibration, acoustic emission and thermal wave sciences. Cover methodologies of penetrant and eddy current diagnostics. Illustrate NDE concepts through laboratory experiments. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7850 Dynamics and Vibration of Automotive Engines Cr. 4

Covers kinematics, dynamics and balance of reciprocating engines, engine mounts and torsional vibrations of powertrains. Offered Yearly.

Prerequisite: ME 5800 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7990 Directed Study Cr. 1-4

Advanced study and instruction in mechanical engineering. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ME 7995 Special Topics in Mechanical Engineering II Cr. 1-8

Special subject matter in mechanical engineering. Topics to be announced in Schedule of Classes . Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ME 7996 Research Cr. 1-4

Perform experimental and analytic study on a selected topic in mechanical engineering. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

ME 8020 Crashworthiness and Occupant Protection in Transportation Systems I Cr. 4

Introduce crashworthiness and occupant safety facts along with computational environment influences. Review of federal motor vehicle safety regulations. Design strategies for crash load sustainment and disbursement. Review the plasticity theory and its application to modeling and design. Define strategic material selection for crash affected and related regions. Cover modeling, analysis and simulation techniques in restraint systems, energy management, and various barrier crash tests. Offered Fall, Winter.

Prerequisite: ME 5040 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

ME 8030 Crashworthiness and Occupant Protection in Transportation Systems II Cr. 4

Develop mathematical models of vehicle crashes in front, side, rear, and rollover modes. Cover roles of vehicle structures and restraint systems in reducing risk of injury. Offered Winter.

Prerequisite: ME 8020 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ME 8290 Advanced Combustion and Emissions II Cr. 4

Introduce single-component and multi-component droplet evaporation and combustion processes, liquid fuel sprays formation, evaporation and combustible mixture formation, comparison between autoignition of homogeneous and heterogeneous mixtures, diffusion flames, combustion of liquid sprays in compression ignition engines and emission control strategies along with advances in gasoline compression ignition engines. Offered Winter.

Prerequisite: ME 7260 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

ME 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ME 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ME 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ME 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

MED - MUSIC EDUCATION

MED 2500 Piano Skills for the Music Classroom Cr. 2

Continuation of MUA 2795. Additional practice with functional skills needed in music classroom. Students acquire a repertoire of musical selections commonly used in the educational setting. Offered Winter.

Prerequisite: MUA 2795 with a minimum grade of C

Course Material Fees: \$75

MED 3500 Introduction to Music Education Cr. 2

Course work includes lesson-plan writing, introduction to methodologies, and participating in teaching experiences. Exploration of philosophical, historical, psychological, and cultural/social foundations of the profession in the context of practical exercises. Offered Fall.

MED 3510 Teaching General Music Cr. 2

Developing a knowledge base for teaching general music including application of learning theories, developmental characteristics of children, and appropriate literature, materials, and resources. Emphasis on structuring successful learning experiences through effective planning, delivery, and evaluation of music instruction for students in grades K-12. Offered Winter.

Prerequisite: MED 3500 with a minimum grade of C

MED 3990 Directed Study Cr. 1-3

Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Junior, Senior or Post Bachelor; enrollment is limited to students with a major in Music or Music Honors.

Repeatable for 6 Credits

MED 4510 Vocal Music in Schools I Cr. 3

Course expands and develops the knowledge base and teaching competencies introduced in MED 3510. Class activities explore strategies for engaging children in a variety of musical experiences that align with state and national standards. Fieldwork in the schools provides an opportunity to apply and refine specific teaching skills within a real-world setting. Emphasis on K-6 elementary music classroom. Offered Fall.

Prerequisite: MED 3500 with a minimum grade of C

MED 4530 Vocal Music in Schools II Cr. 3

Role of choral and vocal music education in secondary schools. Class activities, readings, and fieldwork focus on curriculum development, repertoire, score analysis, rehearsal planning, rehearsal techniques, vocal pedagogy and assessment. Organizational and managerial aspects such as recruitment, budgeting and scheduling are also included. Offered Winter.

Prerequisite: MED 4510 with a minimum grade of C

MED 4540 Instrumental Music in the Schools I Cr. 3

Teaching techniques, materials and organization of instrumental music in elementary schools. Offered Fall.

Prerequisite: MUA 1720 with a minimum grade of C and MUA 1730 with a minimum grade of C and MUA 1740 with a minimum grade of C and MUA 1750 with a minimum grade of C and MUA 1760 with a minimum grade of C and MED 3500 with a minimum grade of C

MED 4550 Instrumental Music in the Schools II Cr. 3

Teaching techniques, materials and organization of instrumental music in secondary schools. Offered Winter.

Prerequisite: MED 4540 with a minimum grade of C

MED 4560 Practicum in Music Education Cr. 2

Practicum provides field experiences in elementary or secondary school settings prior to full-time student teaching. Students apprentice with a cooperating teacher while assisting, observing and teaching throughout the semester. A minimum of 15 hours per week in an approved classroom is required. Offered Fall, Winter.

Prerequisite: MED 3500 with a minimum grade of C

Restriction(s): Enrollment limited to students in the College of Education.

MED 4570 Student Teaching and Seminar Cr. 8

Directed teaching in schools at grade levels for which advanced students are preparing for certification. Seminars feature discussion of important educational issues. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

MED 5550 Choral Conducting and Rehearsal Techniques Cr. 3

Conducting and rehearsal methods and materials for secondary schools. No credit for M.Mus. in conducting or music education. Offered Winter.

Prerequisite: MUA 3670 with a minimum grade of C

MED 5560 Secondary School Music Workshop Cr. 2

Group participation in the study of class materials and teaching procedures for secondary music teachers. Offered Spring/Summer.

Repeatable for 4 Credits

MED 5590 Applications of Technology in Music Teaching Cr. 2

Presentation of techniques and strategies for utilizing various hardware and software applications in classroom music instruction. Emphasis on evolving technologies, including collaborative media, smart technology, and interactive smartboard class materials. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Music.

Course Material Fees: \$75

MED 6540 Instrumental Music Workshop Cr. 2

Current problems, procedures and materials pertaining to development of the instrumental music program in the schools. Offered Spring/Summer.

Repeatable for 4 Credits

MED 7990 Directed Study in Music Education Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

MED 7999 Master's Essay Direction Cr. 3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

MED 8999 Master's Thesis Direction Cr. 1-8

Preparation of M.M. thesis project in music education. Offered Every Term.

Restriction(s): Enrollment limited to students in the Master of Music program; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Music degree.

MGG - MOLECULAR GENETICS AND GENOMICS

MGG 7010 Molecular Biology and Genetics Cr. 4

Basic aspects of molecular genetics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7015 Introduction to Genetics Cr. 2

Forges a link between genotype and phenotype and covers topics in contemporary genetics, including Mendelian analysis, chromosomes, mitosis/meiosis, recombination, mutations and mutagenesis, linkage mapping, complementation, extranuclear inheritance, genetic interactions and epistasis, epigenetics, and developmental genetics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7020 Metabolism and Disease Cr. 2

This course will review normal metabolic pathways and their regulation and then discuss in depth aberrant metabolism as it contributes to or causes diseases such as diabetes, cancer, and neurodegeneration. Didactic lectures will be complemented with student-based presentations of classic and current primary literature studies. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7030 Functional Genomics and Systems Biology Cr. 2

Exploration of several new technologies for determining gene function on a genome-wide scale and for integrating information into a systems-level view of biological processes. Offered Biannually.

Prerequisite: (IBS 7010 and IBS 7020) or IBS 7015

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: IBS 7030

MGG 7050 Bioinformatics: theory and practice Cr. 3

This course will teach graduate students in the biological sciences how to use public web-based bioinformatics resources that were generated by, and after, the Human Genome Project to analyze the structure and function of protein-coding and noncoding-RNA genes. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7091 Scientific Communication Cr. 2

Advanced technical and grant-writing techniques related to the unique requirements in NIH grant proposals. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7400 Molecular Biology of Cellular Signalling Cr. 2

Molecular basis of cell-cell interactions, hormonal interactions, and interactions between different cellular compartments. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7460 Research Training in Molecular Biology and Genetics Cr. 1-8

Direct participation in laboratory research under the supervision of faculty advisor. Design and execution of experiments; analysis of laboratory data; interpretation of results and their relation to published findings. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7600 Advanced Human Genetics Cr. 4

Concepts, problems, and methods of human genetics at an advanced level. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7640 Principles of Genetic Counseling Cr. 1-4

History and evolution of genetic counseling and how it relates to clinical genetic services within the health care delivery system. Genetic counseling skills such as case preparation, interviewing techniques, and family history assessment; counseling methods. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7660 Practical Applications of Genetic Counseling Cr. 3

Provides the foundation for identifying and applying the practical aspects of genetic counseling, including genetic testing and billing and reimbursement, to the reproductive, cardiovascular, pediatric, neurogenetic and cancer genetics clinical settings. Offered Winter.

Prerequisite: MGG 7640 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7700 Hot Topics in Molecular Medicine Cr. 2

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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7740 Theory and Practice of Genetic Counseling Cr. 3

Major theories of human behavior and application of these theories to the practice of genetic counseling. Development of interpersonal communication and psychosocial assessment skills. Offered Winter.

Prerequisite: MGG 7640 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7741 Advanced Genetic Counseling Theory and Practice Cr. 3

Cultural, social, ethical, legal, professional and health-related issues that influence delivery of genetic counseling service and patient decision-making. Application of knowledge to practice. Offered Fall.

Prerequisite: MGG 7740 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7800 Advanced Medical Genetics Cr. 3

Overview of medical genetic disorders taught at a level suitable for those preparing for certification examinations in clinical genetics specialties or for those whose research focus or clinical practice will have a strong emphasis in medical genetics. Offered Every Term.

Prerequisite: MGG 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7830 Human Development and Teratology Seminar Cr. 1

Through lecture, self-study, exam, and oral presentation, students learn key aspects of fetal development, the embryological basis of birth defects and genetic dysmorphology syndromes, clinical teratology, and the associated medical terminology. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7850 Current Topics in Molecular Biology and Genetics Cr. 2

Current literature in molecular biology and genetics; one student makes oral presentation with student and faculty discussion. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

MGG 7860 Evaluating the Health Care Literature Cr. 1

Reading and analysis of health care literature with focus on research articles. Principles of health research design and analysis; skills for critical assessment of medical literature. Offered Winter.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Genetic Counseling; enrollment is limited to Graduate level students.

MGG 7880 Genetic Counseling Seminar Cr. 1-6

Discussion format; issues relevant to medical genetics and the genetic counseling process. Presentations by students and invited faculty. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7881 Senior Seminar in Genetic Counseling Cr. 2

Preparation for the transition to from student to practicing professional in the areas of the job search, billing and reimbursement, clinical supervision, developing effective educational programs, advocacy, and other relevant areas. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 7999 Master's Research Project and Direction Cr. 1-5

Student conducts hypothesis-driven research and prepares written manuscript and oral presentation. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Genetic Counseling; enrollment is limited to Graduate level students; enrollment limited to students in a MS in Genetic Counseling degree.

Repeatable for 5 Credits

MGG 8010 Quantitative Data Analysis for Biological and Medical Sciences Cr. 2

Covers several of the statistical concepts and data analytic skills needed to succeed in data-driven life science research, beginning with relatively basic concepts related to computing p-values and advancing to topics related to analyzing high-throughput data. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

MGG 8680 Advanced Topics in Molecular Biology and Genetics Cr. 1-3

In-depth study of concepts and research in specific fields. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MGG 8770 Molecular Biology of Mitochondrial Disease Cr. 2

Mitochondrial structure and function; mitochondria as sites of phenomena such as cell death, generation of free radicals, and production of most cellular energy. Traditional mitochondrial diseases (e.g., caused by mutations in the mitochondrial DNA); more recent findings of involvement of mitochondria in pathologies such as cancer, diabetes, aging, and neurodegenerative diseases. Offered Fall.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

MGG 8998 Genetic Counseling Internship Cr. 1-8

Students work in variety of genetics and subspecialty clinics as well as laboratory settings, under supervision of genetic counselor/geneticist. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Genetic Counseling; enrollment is limited to Graduate level students; enrollment limited to students in a MS in Genetic Counseling degree.

Repeatable for 8 Credits

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

Student conducts research and prepares written presentation, designed to test specific hypothesis dealing with method, concept, or data. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major, minor, or concentration in Molecular Biology and Genetics; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Science degree.

Repeatable for 8 Credits

MGG 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MBG 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MBG 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MBG 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

MGT - MANAGEMENT

MGT 2530 Management of Organizational Behavior Cr. 3

Applied issues in management examined through a focus on the organization and its external environment, group functions and processes, and employee attitudes and behaviors. Offered Every Term.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

MGT 4500 Business Co-op Assignment Cr. 0

Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. No credit toward degree. Offered Every Term.

Equivalent: ACC 4500, FIN 4500, MKT 4500

MGT 4990 Directed Study in Management Cr. 1-3

Advanced readings and research or tutorial under the supervision of a faculty member in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ([MGT 5510 with a minimum grade of D-] AND ([MGT 5530 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Repeatable for 6 Credits

MGT 5100 Introduction to Sport & Entertainment Management Cr. 3

Provides an overview of the sport & entertainment industry, and examines issues encountered by sport and entertainment managers with special emphasis on the use of business principles to identify, attract and retain consumers. Offered Every Term.

Equivalent: SEM 5100

MGT 5510 Managing Organizational Structure and Processes Cr. 3

Analysis of strategic pressures on the organization. Application of advanced concepts of structured organizational change to contemporary organizational design problems. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([MGT 4510 with a minimum grade of D-] OR [MGT 2530 with a minimum grade of D-] OR [MGT 4530 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5530 Advanced Organizational Behavior Cr. 3

Analysis and application of advanced organizational behavior concepts relevant to managing in a complex and changing environment. Topics include: leading and managing organizational change; solving workplace problems creatively; communicating effectively in a diverse work environment; building and empowering effective teams. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([MGT 4510 with a minimum grade of D-] OR [MGT 2530 with a minimum grade of D-] OR [MGT 4530 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5650 The Entrepreneur and Venture Creation Cr. 3

Nature of entrepreneurship and the role of the entrepreneur in society. Focus on the critical factors and special problems associated with the process of creating new business ventures. Emphasis on development of a business plan. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ACC 3010 with a minimum grade of D-] AND ([FIN 3290 with a minimum grade of D-] OR [FIN 4290 with a minimum grade of D-]) AND ([MGT 4510 with a minimum grade of D-] OR [MGT 2530 with a minimum grade of D-] OR [MGT 4530 with a minimum grade of D-]) AND ([MKT 2300 with a minimum grade of D-] OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5700 Human Resource Management Cr. 3

Theory, policies, procedures and practices in employment relationships. Topics: strategic HRM, legal environment of HRM, equal employment opportunity, job analysis and design, employment planning, recruitment, selection, training and development, performance appraisal, compensation and benefits, labor relations, health and safety. Managerial and policy implications; linkages between HRM practices and organizational effectiveness. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ([MGT 2530 with a minimum grade of D-] OR [MGT 4530 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5740 Collective Bargaining Cr. 3

Development of union-management relationships, including legal environment of labor relations; philosophy and practice of collective bargaining, major challenges facing unions and employers today. A bargaining simulation is normally utilized. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([MGT 2530 with a minimum grade of D-] OR [MGT 4530 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5770 Advanced Human Resource Management Cr. 3

In-depth study of contemporary human resource practices. Specific personnel techniques discussed and analyzed through applications. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ([MGT 5700 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5790 Internship in Management Cr. 3

Student performs assigned tasks and responsibilities in a professional manner under supervision of host-employer for minimum 160 hours during the semester, abiding by rules and regulations established by the employer and expected of all employees; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business Administration. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: (9 credits from BA 1000-6999, ACC 1000-6999, GSC 1000-6999, FIN 1000-6999, MGT 1000-6999, MKT 1000-6999, ISM 1000-6999, BLW 2510-5190) AND ([MGT 2530 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5900 Project Management Cr. 3

Understanding and appreciation of the different knowledge areas of project management. Insight into developing the inputs, tools, techniques, and outputs to successfully manage products. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ([ISM 3630 with a minimum grade of C]) AND ([MGT 2530 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the School of Business.

Equivalent: ISM 5900

MGT 6840 Project Management Cr. 1-4

Presentation of project management strategies, tools and techniques. Development of management skills for team-building and corporate strategic planning. Offered for undergraduate credit only. Offered Winter, Spring/Summer.

Prerequisite: IE 6850 with a minimum grade of D- or BA 6020 with a minimum grade of D-

Equivalent: IE 6840

MGT 6890 Strategic Management and Business Policy Cr. 3

Managing the firm as an integrated unit under conditions of uncertainty. Integration of concepts and skills covered in previous specialized courses. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 6995 Topics in Management Cr. 3

Integration and application of management theory to applied projects in a variety of areas (i.e., human resource management, manufacturing, and information systems) with a focus on leadership. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: (6 credits from MGT 5000-9999) AND ([MGT 5530 with a minimum grade of C-]) AND ([MGT 5700 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 7620 Complex Organizations Cr. 3

The formal structure and processes in complex organizations: departmentalization, decentralization, authority and power, relationships between groups, organizational design and evaluation. Factors affecting organizational design, adaptation to environments, and designing effective decision-making systems. Offered Every Term.

Prerequisites: ([BA 7040 with a minimum grade of C] OR [MGT 7640 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7630 Organizational Change and Development Cr. 3

Analysis of the impact of dynamic forces, particularly globalization, on the theory, methods, and skills involved in designing and implementing planned changes in organizations. Offered Irregularly.

Prerequisites: ([BA 7040 with a minimum grade of C] OR [MGT 7640 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7640 Management of Human Resources Cr. 3

Theory, policy, research and process issues in employment relationships. The specific personnel practices of planning, selecting, employee development and appraisal, compensation and labor relations examined as they relate to conceptual and pragmatic views of management or employee behavior. Offered Every Term.

Prerequisites: ([BA 7040 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7650 Strategic Human Resource Management Cr. 3

Survey of human resource management from a strategic perspective. Formulation and implementation of human resource strategy addressed for recruitment, placement, training, development, issues in an international community. Offered Yearly.

Prerequisite: MGT 7640 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7660 Entrepreneurial Management Cr. 3

Nature of entrepreneurship and role of entrepreneur. Focus on problematic issues involved in creating and managing a small business. Emphasis on special knowledge and skills required of an entrepreneurial manager. Individual students may act as consultants to entrepreneurs or small business owner/managers. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7700 Leadership and Management of Innovation and Technology Cr. 3

Technology and innovation in corporations. Building on principles of leadership and management, consideration of technology, innovation, organizational effectiveness and global competition. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7750 Labor Relations and Collective Bargaining Cr. 3

Forces affecting the character and quality of industrial relations and collective bargaining in the United States; their influence on contract negotiations and grievances. Major challenges facing unions and employers today. A collective bargaining situation is generally used, in which participants plan for negotiations and bargain contract issues. Offered Yearly.

Prerequisites: ([BA 7040 with a minimum grade of C] OR [MGT 7640 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7770 Union Contract Administration Cr. 3

Daily union-management relations. Grievance handling and arbitration. The causes of labor-management conflicts under a union contract. Offered Yearly.

Prerequisite: MGT 7750 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7780 Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice Cr. 3

Theoretical foundations of processes of negotiation, mediation, and multi-party collaborative problem solving. Skill building simulation to integrate theory and practice. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: DR 7210

MGT 7790 Compensation Administration Cr. 3

Process policy and theoretical issues in pay and benefits administration; determination of structural level of individual pay, non-traditional reward systems, and government regulation of benefits. Offered Yearly.

Prerequisite: MGT 7640 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7815 Strategic Leadership Cr. 3

Academic and practitioner views of strategic leadership to understand the dynamics of leadership influence in complex organizations. Offered Fall, Winter.

Prerequisite: BA 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7816 Leading in Organizations Cr. 3

Leadership competency development. Participant assessment precedes developmental planning and the formation of feedback and support networks. Offered Yearly.

Prerequisite: BA 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7850 Management through Constructive Persuasion Cr. 3

Introduction to methods of persuasion. Students learn how persuasion strategies can be applied in listening, speaking and written formats for business management situations. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7895 Internship in Management Cr. 3

Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in management. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

MGT 7900 Project Management Cr. 3

Management of resources (budget, personnel, materials, etc.) within the scope of a given project; understanding and appreciation for the different knowledge areas of project management; insight into identification of inputs, tools, and techniques of project management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ISM 7900

MGT 7950 Business and Sustainability Cr. 3

How organizations can be good to the environment while being profitable. Sustainability concerns such as climate change, rising energy prices, natural resource depletions, and air pollution. Evaluation of aspects of business operations including marketing and communications, stakeholder engagement, product development, operations, supply chain management, and reporting concerns. Offered Yearly.

Prerequisites: ([BA 7040 with a minimum grade of C] OR [BA 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: MKT 7950

MGT 7995 Directed Study in Management Cr. 1-3

Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 3 Credits

MGT 8000 Seminar in Management Cr. 3

Selected topics in the management and organizational sciences. Offered Irregularly.

Prerequisite: BA 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MIT - MANUFACTURING AND INDUSTRIAL ENGINEERING TECHNOLOGY

MIT 3350 Applied Human Factors Cr. 3

Introduction to human physiological and psychological functions and capabilities from an engineering viewpoint; sensory information processing and motor abilities, human-machine design aspects. Offered Yearly.

MIT 3500 Machine Tool Laboratory Cr. 1

Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. Offered Fall, Winter.

Prerequisites: ([ET 2140 with a minimum grade of D-])

MIT 3520 Manufacturing Processes Theory Cr. 2

Nature and deformation behavior of materials commonly used in manufacturing; basic processes used in transforming them into useful products; scientific theory underlying those processes; criteria for selecting particular processes. Offered Fall, Winter.

Prerequisites: ([CHM 1020 with a minimum grade of D-]) AND (May be taken concurrently: [MIT 3500 with a minimum grade of D-])

MIT 3600 Process Engineering Cr. 3

Processing functions. Methods of manufacturing analysis. Manufacturing sequence, mechanization. Selection of tooling and equipment. Planning the process of manufacture. Offered Yearly.

Prerequisites: ([MIT 3520 with a minimum grade of D-])

MIT 4700 Computer-Aided Design and Manufacturing Cr. 3

Fundamentals of computer-aided manufacturing using computer software. Two- and three-dimensional applications programming, numerical control and programming. Offered Yearly.

Prerequisites: ([ET 2140 with a minimum grade of D-]) AND ([MIT 3520 with a minimum grade of D-] OR [MIT 3510 with a minimum grade of D-])

Course Material Fees: \$25

MIT 4800 Quality Control Cr. 4

Introduction to total quality systems design and to basic analytical techniques for quality control. Offered Irregularly.

Prerequisites: ([ET 3850 with a minimum grade of D-])

MIT 4990 Guided Study Cr. 1-6

Supervised study and instruction in the field selected by the student. Offered Irregularly.

Repeatable for 6 Credits

MIT 5500 Machine Tool Laboratory Cr. 1

Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. Offered Fall, Winter.

Prerequisites: ([ET 2140 with a minimum grade of D-])

MIT 5700 Industrial Robots Modeling and Simulation Cr. 4

Modeling, simulation and programming of industrial robots in flexible manufacturing environment; the direct and inverse kinematic problems; homogeneous and composite homogeneous transformation matrices; links, joints, the Denavit-Hartenberg representation; kinematic equations for manipulators; and geometric approach applied for 2DOF, 3DOF, and up to 6DOF manipulators. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Unranked Grad or Senior; enrollment is limited to Graduate or Undergraduate level students.

MIT 7700 Robotics and Flexible Manufacturing Cr. 4

Kinematics, dynamics and controls of the manipulators, their design and applications in flexible manufacturing cells. Computer-integrated manufacturing. Offered Irregularly.

Prerequisite: ET 7430 with a minimum grade of C and MIT 4700 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

MKT - MARKETING

MKT 2300 Marketing Management Cr. 3

Planning the marketing program within social, economic and legal environments, market segmentation and behavior, market systems and strategy, international marketing. Offered Every Term.

Prerequisites: ((ECO 2010 with a minimum grade of D-))

MKT 3300 Marketing Mgt for Engineers Cr. 3

Offered Every Term.

Restriction(s): Enrollment limited to students in the UGC in Engg Entrepreneurship program; enrollment is limited to Undergraduate level students.

MKT 4500 Business Co-op Assignment Cr. 0

Must be elected by Professional Development Co-operative Program students during work semester. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. No credit toward degree. Offered Every Term.

Equivalent: ACC 4500, FIN 4500, MGT 4500

MKT 4990 Directed Study in Marketing Cr. 1-3

Advanced readings and research or tutorial under the supervision of a faculty member in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ((MKT 5410 with a minimum grade of D-)) AND ((MKT 5450 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

Repeatable for 6 Credits

MKT 4991 Study Abroad in Marketing Cr. 3

Study abroad programs in various countries. Programs run 10-15 days in length. Recent country programs have been in China, Poland, and Italy. Travel within a given country with visits to various companies and cultural attractions. Traveling costs are over and above tuition and vary by country. Various reading and assignments required. Offered Winter, Spring/Summer.

MKT 5410 Marketing Research and Analysis Cr. 3

Methods of gathering and analyzing data which will facilitate the identification and solution of marketing problems. Planning the project, data sources for exploratory and conclusive research. Questionnaire construction, sample design, and design of marketing experiments. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) OR [MKT 4300 with a minimum grade of D-]) AND ((ISM 3400 with a minimum grade of D-)) OR [BA 3400 with a minimum grade of D-]) OR [ISM 4400 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5450 Consumer Behavior Cr. 3

Concepts and theories to explain consumer and organizational buyer behavior. Application of this understanding to marketing management and public policy decision making. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5460 Sales Management Cr. 3

Organization and direction of a sales organization including selection, training, compensation, supervision, motivation, budgets, quotas, territories, and sales analysis. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5490 Principles of Advertising Cr. 3

Basic elements of advertising research, media, and creative strategies, including integrated marketing communications. Applications include development of advertising for local business organizations. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5500 Advertising Copy Cr. 3

Principles of effective advertising copy and application in consumer and industrial advertisements. Exercises in writing, criticizing, testing, and revising magazine, newspaper, radio, television, outdoor and direct mail advertisements. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ((MKT 5490 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5510 Advertising Media Planning Cr. 3

Influence of marketing, creative and media objectives upon media planning. Information systems, budgeting approaches, media characteristics, media models, schedule construction, execution, and auditing. Offered for undergraduate credit only. Offered Yearly.

Prerequisites: ((MKT 5490 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5520 Public Relations of Business Cr. 3

Philosophy of public relations of business, history of public relations, study of public opinion, the public relations process, tools of communication, uses of mass media in public relations work, and analysis of methods employed in establishing sound public relations programs. Offered for undergraduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5700 Retail Management Cr. 3

Retailing concepts and problems. Competitive structure, store location, organization, buying, inventory control, sales promotion, pricing, credit policy, customer services, research and franchising. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5750 International Marketing Management Cr. 3

Offered for undergraduate credit only. Offered Winter.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) OR [MKT 4300 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5840 Special Topics in Marketing Cr. 3

Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5850 Integrated Marketing Communications Strategy Cr. 3

Application of basic advertising skills to development of a fully-integrated marketing communications program for a major national or international business; research, media, creative, and promotion strategies. Offered for undergraduate credit only. Offered Winter.

Prerequisites: ((MKT 5490 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5890 Internship in Marketing Cr. 3

Consult School of Business Administration website for further guidelines and application form for the internship. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((MKT 2300 with a minimum grade of C))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 6996 Strategic Marketing Cr. 3

Capstone course in the marketing sequence; includes four components designed to develop skills in planning and development of strategies to solve marketing problems. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((MKT 2300 with a minimum grade of D-)) AND ((MKT 5410 with a minimum grade of D-)) AND ((MKT 5450 with a minimum grade of D-))

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 7150 Global Automotive Marketing Strategy Cr. 3

Marketing concepts, strategies, and tactics in global automotive industry. Marketing principles, role of marketing, target market selection, segmentation, brand management, distribution systems. Offered Yearly.

Prerequisites: ((BA 6015 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7430 Advertising Management Cr. 3

Planning, implementing, and controlling advertising and sales promotion. Internal and external relationships of the advertising department, determining advertising objectives and copy platform, setting the budget, selecting media and measuring advertising effectiveness. Offered Fall, Winter.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7450 Business Research and Methodology Cr. 3

An intensive study of the objectives and methodologies of research for business decisions. Course topics include: the scientific method, primary and secondary data sources, research design, reliability and validity, sampling, and applied statistics. Focus on the development of decision-oriented research information for all aspects of a business organization. Offered Every Term.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7460 International Business Cr. 3

Globalization, the multinational firm, and emerging economies. Evolution of the international monetary environment and monetary systems. Theory of the multinational firm and foreign direct investment. Cultural and market opportunity analyses. Internationalization patterns and modes of foreign market entry. Strategic and organizational choice in international business. International alliances and emerging market economies. Fundamentals of international financial management. Offered Every Term.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7470 Consumer and Industrial Buying Behavior Cr. 3

Behavioral theory as it relates to consumer and industrial decision processes. Relevant concepts, theories, and recent research findings are drawn from the fields of marketing, psychology, social psychology, and communications. Examination of consumer and industrial buying practices. Offered Every Term.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7500 International Marketing Strategy Cr. 3

Globalization and marketing in the current decade. Marketing and research in the international environment. Cross-national consumer behavior and cross-national segmentation, targeting, and positioning. Product policy and branding in the international environment. International pricing, supply chain management, and communication strategy. Global branding. Marketing problems and opportunities in emerging markets. Organizational and strategic issues in global marketing. Offered Winter.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7700 Management of Retail Enterprises Cr. 3

In-depth study of the retail mix variables as they relate to products and services, pricing, promotion, place, and operating policies. Merchandising, inventory controls, store operations, and research approaches in monitoring current trends in retail management. Offered Irregularly.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7870 Seminar in Marketing Cr. 3

In-depth exploration of new and important subjects or techniques in marketing. Topics vary by semester; consult instructor. Offered Irregularly.

Prerequisite: BA 7050 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7890 Internship in Marketing Cr. 3

Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in marketing. Offered Every Term.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

MKT 7950 Business and Sustainability Cr. 3

How organizations can be good to the environment while being profitable. Sustainability concerns such as climate change, rising energy prices, natural resource depletions, and air pollution. Evaluation of aspects of business operations including marketing and communications, stakeholder engagement, product development, operations, supply chain management, and reporting concerns. Offered Yearly.

Prerequisites: ((BA 7040 with a minimum grade of C) OR [BA 7050 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: MGT 7950

MKT 7995 Directed Study in Marketing Cr. 1-3

Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Every Term.

Prerequisites: ((BA 7050 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 5 Credits

MKT 7996 Principles for Customer Relationship Management Cr. 3

Investigation of the antecedents and consequences of implementing a customer-relationship management strategy. The course will provide students with insight on: What CRM and its conceptual foundations are; How CRM forces the interaction between corporate strategy, organizational structure, supply chain, and customer facing front end; The role of measuring and managing customer satisfaction, customer loyalty and customer profitability; Hands-on application with salesforce.com. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$75

Equivalent: ISM 7996

MS - MORTUARY SCIENCE

MS 3100 Thanatochemistry Cr. 2

Discussion, problem solving, and application of general inorganic, organic and biochemistry to postmortem changes, biologic preservation, and embalming chemistry. Course includes a problem-based laboratory and case studies with correlations to embalming chemistry. Offered Fall.

Prerequisite: CHM 1000 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3300 Religions, Values, and Death Cr. 3

Various religious, secular, and philosophical views regarding the value of life, the meaning of death, and life after death. Offered Winter.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science, BS in Pathologist Assistant or PBC in Forensic Investigation programs; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3400 Funeral Service Law and Ethics I Cr. 3

Business law and legal environment affecting funeral service. Introduction to American legal system, court structure, and civil & criminal procedure. Contract law, property law and UCC Articles 2, 3, and 9. Survey of tort law. Discussion and problems based on the ethical responsibilities of funeral practitioners Offered Winter.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3410 Funeral Service Law and Ethics II Cr. 3

Legal principles affecting funeral service including legal status of a deceased, rights and responsibilities affecting disposition, licensing laws, regulatory compliance, preneed and probate law. Funeral service torts and discussion and problems on due diligence, best practices, and ethical responsibilities of funeral practitioners. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3420 Funeral Arranging Cr. 2

Funeral arrangement skills including interpersonal communication skills in the arrangement conference, conflict resolution, personalization, and completion of forms. Simulated funeral arrangements and FTC compliance. Offered Fall.

MS 3500 Embalming I Cr. 3

Theories, practices, and techniques of biologic preservation and disinfection of human remains; case analyses; methods of application of embalming chemicals; use of instruments and equipment; special case embalming. Laboratory teaching of all practical aspects of embalming. Material Fee as indicated in the Schedule of Classes. Offered Fall.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$200

MS 3510 Embalming II Cr. 3

Dynamics of decomposition; influence of disease and its treatment on the embalming process; public health considerations; anatomical embalming; disaster response; evaluation of embalming techniques. Material Fee as indicated in the Schedule of Classes. Offered Winter.

Prerequisite: MS 3500 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$200

MS 3600 Restorative Art and Modeling I Cr. 2

Theories, methods, and techniques used in the restoration of superficial tissues and features. Color theory, cosmetology, facial proportions, skin tones correlated with reconstruction. Clay and wax modeling. Case studies in restorative art. Offered Fall.

Prerequisite: MS 3500 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

MS 3610 Restorative Art and Modeling II Cr. 2

Continuation of M S 3600. Material Fee as indicated in the Schedule of Classes. Offered Winter.

Prerequisite: MS 3600 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$35

MS 3620 Presentation and Cosmetics Cr. 2

Advanced restorative art techniques and strategies for professional mortuary science students. Offered Spring/Summer.

Prerequisite: MS 3610

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$200

MS 3760 Funeral Service History and Trends Cr. 2

Basic human need to memorialize the dead, examined throughout history. Funeralization as a process affected by social and religious change. The funeral service professional in a socio-temporal context. Possible future practices based on understanding of historical records and current trends. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3800 Funeral Directing Cr. 3

Funeral service operations. Practical applications including field trips. Funeral service process from first call to final disposition. Terminology, government regulations, ethics, professional conduct, vital statistics records, necessary forms. Religious, ethnic, fraternal and military variations. Computer technologies and applications. Offered Fall.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$80

MS 3810 Funeral Service Marketing and Merchandising Cr. 3

Continuation of M S 3800. Marketing, merchandising, public relations, pre-need planning, personnel management, job-seeking skills, licensing requirements; planning, building and establishing of funeral home. Government regulations. Offered Winter.

Prerequisite: MS 3800 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$80

MS 3830 Psychology of Death and Dying Cr. 3

Various social and cultural perspectives; psychosocial changes related to death, dying, and disposition; special cases: sudden, violent or unexpected death. Offered Fall.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3840 Psychosocial Aspects of Grief Cr. 3

Psychology of funeral service practices; social role of funeral service practitioner in the dynamics of grief; psychosocial interpretations of changing attitudes toward death; normal and abnormal grief responses; sociology of funeral service. Offered Spring/Summer.

Prerequisite: MS 3830 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3970 Practicum I Cr. 1

Student placement in licensed funeral service facility to acquire practical experience in basic funeral service skills. Offered Winter.

Prerequisites: (May be taken concurrently: [MS 3510 with a minimum grade of C]) AND ([MS 3800 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 3980 Practicum II Cr. 2

Continuation of the Practicum I course. Students are placed in a licensed funeral service facility to acquire practical experience in advanced funeral service skills. Offered Spring/Summer.

Prerequisite: MS 3970

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4010 Basic Forensic Analysis Cr. 3

The forensic lab, its organization, accreditation, and regulation; quality control, safety, and documentation; discussion and demonstration of methods for collection and processing of specimens. Specimen extraction techniques and analyte-specific analytical instrumentation used in forensic laboratory. Basis for the forensic logic tree. Offered Fall.

Restriction(s): Enrollment limited to students in the PBC in Forensic Investigation program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4011 Interview and Interrogation Techniques Cr. 3

Appropriate and effective techniques for conducting interviews in forensic investigations. Effective and efficient techniques for interviewing witnesses and interrogating defendants. Legal issues surrounding investigations; strategies in gathering information and obtaining confessions. Offered Fall.

Restriction(s): Enrollment limited to students in the PBC in Forensic Investigation program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4050 Anatomy for Mortuary Science Cr. 2

Detailed systemic study of human anatomy. Laboratory work consists of demonstrations and selected dissections; emphasis on vascular anatomy and adjacent structural relationships; anatomic guides. Material Fee As Indicated In The Schedule of Classes. Offered Fall.

Prerequisite: BIO 2870 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

MS 4250 Microbiology for Mortuary Science Cr. 2

Discussion and application of pathogenic microbial agents; host-parasite relationships; disinfection-decontamination; immunology; epidemiology of infectious disease, public health issues; and problem-based case studies. Lecture and problem-based laboratory/case studies. Offered Winter.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4300 Pathology for Mortuary Science Cr. 2

Causes of disease; basic epidemiology; tissue reactions to injury, gross and microscopic; neoplasia; select systemic and organ pathologies; comparative roles of various specialties in pathology. Satisfies the Writing Intensive requirement for Mortuary Science students. Offered Spring/Summer.

Prerequisite: MS 4050 with a minimum grade of D- and MS 4250 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4450 Funeral Service Management and Accounting Cr. 3

Financial aspects of starting and operating a funeral business; basic accounting principles; dealings with fellow professionals and government agencies. Offered Spring/Summer.

Prerequisite: ACC 3010 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4500 Clinical Autopsy Pathology Cr. 6

Autopsy procedures, including data retention, dissection techniques, selection of tissue for microscopic examination, and methods of body restoration prior to release. Course addresses clinical Gross Anatomy Techniques and Gross Pediatric Pathology techniques. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4600 Clinical Forensic Pathology Cr. 3-5

Assisting pathologist in determining cause of death; basic methods for identifying remains with regard to age, sex, and race; techniques of photographic record keeping. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant or PBC in Forensic Investigation programs; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

MS 4650 Clinical Surgical Pathology Cr. 5

Principles, theories, and clinical practices related to gross surgical dissections. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4700 Clinical Pathology Cr. 3

Fundamental processes in benign and malignant hematopathology and lymphoid tissue; interpretation of clinical chemistry values, tumor markers, laboratory values, and the evolution of clinical and pathology case studies. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4800 Clinical Photography Cr. 2

Techniques required to photographically record gross and microscopic specimens as presented from surgery. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 4850 Clinical Academic Pathology Cr. 6

Principles and theories of surgical diagnostic pathology and mechanisms of disease. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 5010 Advanced Forensic Analysis Cr. 2

New developments in the forensic laboratory; current areas of research and potential applications. Forensic logic trees and forensic case applications; novel techniques in crime scene investigation and analysis. Offered Winter.

Prerequisite: MS 4010 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Forensic Investigation; enrollment limited to students in the PBC in Forensic Investigation program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 5011 Forensic Investigation of Firearms, Ballistics, and Explosives Cr. 4

Introduction to firearm operation, identification, ballistics and explosive materials and devices from the perspective of forensic evaluation. Principles of forensic evidence collection and analysis discussed in lab. Offered in collaboration with Bioengineering Center Ballistic Research Laboratory. Offered Winter.

Prerequisite: MS 4010 with a minimum grade of D- or MS 6010 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Forensic Investigation; enrollment is limited to Undergraduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$40

MS 5350 Grief Dynamics and Aftercare Cr. 2

Identifying components of bereavement aftercare. Recognizing bereaved individuals needs at the funeral and beyond. Developing personal and professional capacity to assist grieving individuals and families through application of bereavement care skills. Offered Winter.

Prerequisites: ([MS 3830 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 5550 Special Topics in Mortuary Science Cr. 1

Lectures and discussions; invited speakers on current topics in the profession. Topics to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science or PBC in Forensic Investigation programs; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 3 Credits

MS 5990 Directed Study Cr. 3

Library and/or laboratory study of current or pending professional development; study of an existing problem, study or development of new procedures or techniques. Assigned project under the guidance of departmental/program faculty member. Offered Every Term.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science or PBC in Forensic Investigation programs; enrollment limited to students in the Pharmacy and Health Sciences.

MS 5996 Professional Review Cr. 2

A comprehensive review and assessment in preparation for the National Board Examination consisting of assigned questions and in-class discussion and assessment, culminating in the Practice National Board Examination. Students receive a grade of Y at the conclusion of the course and have 60 days to take the National Board Examination after completion of the Mortuary Science professional coursework. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the BS in Mortuary Science program; enrollment limited to students in the Pharmacy and Health Sciences.

MS 6010 Forensic Analysis for the Toxicologist Cr. 3

Introduction to the field for the analytical toxicologist. Design, organization, quality control, quality assurance, safety, documentation in forensic laboratory; specimen collection; handling of biological and other evidentiary specimens. Offered Fall.

MSE - MATERIALS SCIENCE AND ENGINEERING

MSE 5350 Polymer Science Cr. 3

Fundamental relationships between chemical structure and physical properties of high polymers. Basic structures, states, and transitions of polymers. Polymerization reactions and processes. Molecular weight, viscous flow and mechanical properties of polymers. Offered Fall.

Prerequisites: (May be taken concurrently: [MAT 2150 with a minimum grade of C-])

Course Material Fees: \$10

Equivalent: CHE 5350

MSE 5360 Polymer Processing Cr. 3

A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendaring, extrusion, coating and injection molding. Offered Winter.

Prerequisites: ([CHE 3200 with a minimum grade of C-])

Course Material Fees: \$10

Equivalent: CHE 5360

MSE 5385 Biocompatibility Cr. 4

Wound healing and the tissue response to foreign materials. The organization activation, and mechanisms of the immune system. Bioactive materials and the molecular basis for surface recognition Y masking. Biocompatibility testing. Offered Biannually.

Equivalent: BME 5380

MSE 5650 Surface Science Cr. 3

An introduction to the science and technology of surface phenomena, including surface structure, surface energy, surface diffusion, crystal growth and selected applications of technological importance. Offered Irregularly.

Prerequisites: ([BE 1300 with a minimum grade of D-]) AND ([CHM 5440 with a minimum grade of D-])

MSE 7100 Advanced Engineering Mathematics Cr. 3

Presentation, evaluation and use of mathematical methods within the framework of engineering problems, including ordinary and partial differential equations, transforms and vector operations. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHE 7100

MSE 7180 Advanced Topics in Biomaterials and Tissue Biomechanics Cr. 4

Seminar format: advanced topics presented to the class; lectures by the instructor and by the participants based on literature reviews. Topics determined by student interest. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7300, ME 7180

MSE 7300 Advanced Thermodynamics Cr. 3

Advanced presentation of the principles of thermodynamics; application to open systems, phase diagrams and chemical equilibria. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CHE 7300

MSE 7400 Mechanical Behavior of Materials Cr. 3

Analysis of elastic and plastic deformation of single crystals and polycrystalline materials, emphasizing the relations between metallurgical microstructure and material properties. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

MSE 7990 Directed Study Cr. 1-6

Library investigation of an approved project in materials science and engineering. Independent study, conferences with supervisor and preparation of a comprehensive report. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

MSE 7995 Special Topics in Materials Science II Cr. 1-4

A consideration of special subject matter in materials science. Topics to be announced in Schedule of Classes . Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MSE 8996 Research Cr. 1-10

Library and laboratory investigation of an approved proposal for advanced research project. Conferences and periodic oral progress reports. Comprehensive report of entire project upon completion. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

MSE 8997 Seminar Cr. 0.5

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

MSE 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MSE 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MSE 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: MSE 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

MUA - MUSIC ENSEMBLES AND GENERAL COURSES

MUA 0900 General Lectures and Concerts Cr. 0

Lectures by visiting scholars; recitals by invited guest artists; student and faculty recitals, concerts and convocations. Offered Fall, Winter.

MUA 1700 Guitar Class Cr. 2

Fundamentals in guitar playing; techniques, hand positions, bar chords, general performance practices. Offered Fall, Winter.

Course Material Fees: \$75

Repeatable for 8 Credits

MUA 1710 Piano Class Cr. 2

Rudiments of rhythmic and staff notation, beginning keyboard technique, hand positions, scales, simple compositions. Offered Fall, Winter.

Course Material Fees: \$75

Repeatable for 8 Credits

MUA 1720 Voice Techniques and Pedagogy Cr. 2

Fundamentals in voice training and pedagogy for music majors. Offered Fall.

Prerequisite: MUT 1140 with a minimum grade of C and MUT 1150 with a minimum grade of C

Repeatable for 8 Credits

MUA 1730 String Techniques and Pedagogy Cr. 2

Techniques and fundamental problems in the playing and teaching of stringed instruments. Offered Fall, Winter.

Prerequisites: ([MUT 1140 with a minimum grade of D-] OR [MUT 1100 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$75

Repeatable for 6 Credits

MUA 1740 Woodwind Techniques and Pedagogy Cr. 2

Techniques and fundamental problems in the playing and teaching of woodwind instruments. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$75

Repeatable for 6 Credits

MUA 1750 Brasswind Techniques and Pedagogy Cr. 2

Techniques and fundamental problems in the playing and teaching of brasswind instruments. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$75

Repeatable for 6 Credits

MUA 1760 Percussion Techniques and Pedagogy Cr. 2

Techniques and fundamental problems in the playing and teaching of percussion instruments. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$75

MUA 1795 Piano Skills I Cr. 2

Repertoire, scales, sight reading, harmonization, and simple transpositions. Offered Every Term.

Prerequisites: ([MUA 1710 with a minimum grade of C]) AND ([MUT 1140 with a minimum grade of C]) AND ([MUT 1150 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in the BA in Fine Arts or Bachelor of Music programs.

Course Material Fees: \$75

MUA 2400 Music Business I Cr. 3

Overview of the music business: emphasis on career options/development; necessary training/experience; music in the marketplace, arts entrepreneurship, mass media, technology, digital/global implications and future trends, arts administration, industry networking, social media, internship development; professional organization, association, and industry affiliations. Offered Winter.

Prerequisite: MUT 1160 with a minimum grade of C and MUT 1170 with a minimum grade of C

MUA 2500 Music Technology Cr. 3

Introductory class on music technology. Learn to record, edit, and export music using a computer. Learn the basics of audio hardware setup for music, multimedia, and classes. Offered Every Term.

Course Material Fees: \$75

MUA 2510 Studio Reocording Techniques Cr. 2

Learn techniques of multi-track recording. Students will learn how to observe and understand equipment in a professional recording studio. Offered Fall.

Prerequisite: MUA 2500 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$75

MUA 2530 Electronic Music Synthesis Cr. 3

Learn to create sounds by manipulating electronic signals. Topics include fundamentals of synthesizers, theories of digital signal processing, and principle of sound design. Offered Fall.

Prerequisite: MUA 2500 with a minimum grade of C

Course Material Fees: \$75

MUA 2720 Voice Class Cr. 2

Fundamentals in voice training. Correct breathing: tone placement: articulation vocalises. Offered Fall, Winter.

Equivalent: MUA 1720

Repeatable for 8 Credits

MUA 2795 Piano Skills II Cr. 2

Continuation of MUA 1795; development of basic piano skills to a higher level. Offered Winter, Spring/Summer.

Prerequisite: MUA 1795 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music; enrollment limited to students in the BA in Fine Arts or Bachelor of Music programs.

Course Material Fees: \$75

MUA 2800 University Bands Cr. 1

. Offered Fall, Winter.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2802 Chamber Winds Cr. 1

Offered Fall, Winter.

Course Material Fees: \$25

Repeatable for 10 Credits

MUA 2804 Warrior Band Cr. 0

Warrior band performs for all home football games during fall term and basketball games during late fall and winter terms. Performances for University special events may be scheduled. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2806 Campus Band Cr. 0

Co-curricular concert band open to all University students. Campus Band performs one formal concert during winter term. Performances for University special events may be scheduled. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$30

MUA 2810 University Symphony Orchestra Cr. 1

Offered Fall, Winter.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2820 Jazz Big Band Cr. 1

Offered Fall, Winter.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2822 Jazz Guitar Ensemble Cr. 1

Large ensemble for jazz guitar majors/principals. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2824 Jazztet Cr. 1

Select ensemble for jazz majors. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$25

Repeatable for 10 Credits

MUA 2826 Jazz Combos Cr. 1

Small ensemble for jazz majors. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Course Material Fees: \$25

Repeatable for 10 Credits

MUA 2830 Men's Glee Club Cr. 1

Music majors must enroll for one credit to satisfy degree requirements. Offered Fall, Winter.

Course Material Fees: \$20

Repeatable for 99 Credits

MUA 2840 Choral Union Cr. 1

Offered Fall, Winter.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2850 Concert Chorale Cr. 1

Offered Fall, Winter.

Course Material Fees: \$30

Repeatable for 99 Credits

MUA 2860 Opera Workshop Cr. 1

Offered Fall, Winter.

Course Material Fees: \$30

Equivalent: THR 2261

Repeatable for 10 Credits

MUA 2870 Women's Chorale Cr. 1

Offered Fall, Winter.

Course Material Fees: \$25

Repeatable for 99 Credits

MUA 2880 Chamber Music and Special Ensembles Cr. 1

All forms including: flute ensemble, percussion ensemble, string trios and quartets, small wind or brass ensembles, and mixed ensembles. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music.

Course Material Fees: \$25

Repeatable for 10 Credits

MUA 2891 Electronic Music Ensemble Cr. 1

Learn to play electronic instruments in an ensemble. Current and vintage electronic instruments as well as approved traditional instruments are being used to perform contemporary electronic music repertoire. Offered Fall, Winter.

Prerequisite: MUA 2500 with a minimum grade of C or MUA 2530 with a minimum grade of C

Course Material Fees: \$75

Repeatable for 2 Credits

MUA 3510 Mixing and Mastering Cr. 2

Students will learn project management skills through proper session documentation and billing. Topics include surround sound mixing, live sound, and large ensemble production techniques. Offered Winter.

Prerequisite: MUA 2510 with a minimum grade of C

Course Material Fees: \$75

MUA 3530 Sound Design Cr. 3

Covers the basics of audio programming using text-based audio applications. Students will learn to create their own plugins and software synthesizers. Offered Winter.

Prerequisite: MUA 2530 with a minimum grade of C

Course Material Fees: \$75

MUA 3550 Advanced Studio Techniques Cr. 2

Examines project management skills through proper session documentation and billing. Topics include surround sound mixing, live sound, and large ensemble production techniques. Offered Fall.

Prerequisite: MUA 3510 with a minimum grade of C

Course Material Fees: \$75

MUA 3670 Conducting Techniques I Cr. 2

Rudiments of conducting; special attention to baton techniques. Offered Fall.

Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C

MUA 3680 Conducting Techniques II Cr. 2

Continuation of MUA 3670. Score reading and rehearsal techniques. Offered Winter.

Prerequisite: MUA 3670 with a minimum grade of C

MUA 3795 Advanced Piano Skills Cr. 2

Continuation of MUA 2795; emphasis on jazz skills and styles. Offered Fall.

Prerequisite: MUA 2795 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Bachelor of Music program.

Course Material Fees: \$75

MUA 3990 Directed Study Cr. 1-3

Individualized research and work in a particular aspect of music under the supervision of a faculty member. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major, minor, or concentration in Music or Music Honors.

Repeatable for 6 Credits

MUA 4010 Audio Electronics Cr. 3

Examines practical electronics for music production and electronic music composition. Topics include basic electronics, building and repairing audio equipments, and building analog and digital signal processors and synthesizers. Offered Fall.

MUA 4020 Theories of Electronic Music Cr. 3

Covers advanced digital theories of electronic music synthesis and production. Topics include digital signal processing, advanced audio programming, interactive audio, and audio synthesis. Offered Fall.

Prerequisite: MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4030 Sound Design for Visual Media Cr. 3

Covers sound design and audio treatment for visual media. Topics include research and creation of sound for film, web, sound libraries, instructional technology, sound installations, and non-linear sound design (video games). Offered Winter.

Prerequisite: MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4040 Electroacoustic Music Cr. 3

Introduces techniques, aesthetics, and composition of electroacoustic music. Topics include analytical techniques for electronic music, creative usage of audio hardware and software, and advanced electroacoustic music performance. Offered Fall.

Prerequisite: MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4650 Directed Study: Internships Cr. 1-3

Directly supervised professional experience in the music and creative arts industries and related fields (marketing, music technology, recording, publicity, public relations). Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment limited to students in the Bachelor of Music program.

Repeatable for 6 Credits

MUA 4950 Music Technology Senior Project Cr. 1

Students will create a large-scale, long-term project that demonstrates the skills learned in the music technology classes. Offered Winter.

Prerequisite: MUA 4650 (may be taken concurrently) with a minimum grade of C

MUA 4990 BA Project Cr. 2

Directed study leading to completion of the B.A. project in music. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major, minor, or concentration in Music or Music Honors; enrollment limited to students in a Bachelor of Arts degree.

Equivalent: MUH 4990, MUT 4990

MUA 5600 Music Business II Cr. 3

Continuation of MUA 2400. Basic aspects of the music business. Topic coverage will include legal issues, copyright and fair use, songwriting, publishing, licensing, artist management, the recording industry, recording contracts, unions and guilds, use of agents, attorneys, and managers, and an introduction to various forms of business entities and related tax issues in the music business. Offered Fall.

Prerequisite: MUA 2400 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUA 5690 Stage Band Direction Cr. 1

Techniques of big-band direction in a jazz medium. Offered for undergraduate credit only. Offered Fall, Winter.

Prerequisite: MUA 3670 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 3 Credits

MUA 5700 Music Business III Cr. 3

Third in the four-course music business course sequence. Intensive individual research and study of specific areas of the music business and music industry, on local, national and global levels. Artist management, nonprofit organizations, arts advocacy/citizenship, and arts entrepreneurship. Other areas of research/investigation may include live concert production/touring, film music, music video, radio/television, marketing/communications, music business/industry associations, social media and technological/digital implications. Comprehensive individual and collaborative team research projects, music business projects, and internship/career networking development. Offered for undergraduate credit only. Offered Winter.

Prerequisite: MUA 5600 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

MUA 5730 Harpsichord Class Cr. 2

Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Repeatable for 8 Credits

MUA 5800 Music Business IV Cr. 3

Final course in the music business sequence. Individual study of specific areas of music business/management and the music industry at the local, national, and international levels. Areas may include: live concert production/touring, film music and music video, marketing/communication, music business/industry associations, and technology/digital implications. Comprehensive research project required. Offered for undergraduate credit only. Offered Fall.

Prerequisite: MUA 5700 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$50

MUA 7730 Advanced Diction Cr. 3

In-depth study of diction for singers. Offered Irregularly.

Prerequisite: MUH 5370 with a minimum grade of C and MUH 5380 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

MUA 7800 University Bands Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 3 Credits

MUA 7802 Chamber Winds Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

MUA 7810 University Symphony Orchestra Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 3 Credits

MUA 7820 Jazz Big Band Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 3 Credits

MUA 7822 Jazz Guitar Ensemble Cr. 1

Large ensemble for jazz guitar majors/principals. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 2 Credits

MUA 7824 Jazztet Cr. 1

Select ensemble for jazz majors. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$25

Repeatable for 2 Credits

MUA 7826 Jazz Combos Cr. 1

Small ensemble for jazz majors. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$25

Repeatable for 2 Credits

MUA 7830 Men's Glee Club Cr. 1

. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$20

Repeatable for 4 Credits

MUA 7840 Choral Union Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 3 Credits

MUA 7850 Concert Chorale Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 3 Credits

MUA 7860 Opera Workshop Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$30

Repeatable for 4 Credits

MUA 7870 Women's Chorale Cr. 1

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

Repeatable for 4 Credits

MUA 7875 Orchestral Repertory Cr. 1

Individual and small group instruction in orchestral repertory, audition preparation, and mock auditions. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the GC in Orchestral Studies program; enrollment is limited to Graduate level students.

Course Material Fees: \$20

Repeatable for 3 Credits

MUA 7880 Chamber Music and Special Ensembles Cr. 1

All forms including piano and string trios and quartets, and small wind groups. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

Repeatable for 3 Credits

MUH - MUSIC HISTORY

MUH 1340 Music Appreciation: World Music Cr. 3

Introduction to the musical styles of Africa, Asia, South America, and the Middle East. Offered Every Term.

MUH 1345 Music Cultures Cr. 3

Indigenous musics and cultures of Asia, Africa and the Americas; emphasis on features of the musics that have influenced Western art musics. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in the BA in Fine Arts or Bachelor of Music programs.

MUH 1350 History of American Popular Music Cr. 3

History of American popular music from the early nineteenth century to the present. Political, economic, social, and cultural influences on music. Offered Winter.

MUH 1351 History and Styles of Rock and Roll Cr. 3

Exploration of American ""mainstream"" and ""subcultural"" popular music; focus on art, technology, business, cultural contexts. Offered Yearly.

MUH 1370 Music Appreciation: Beginnings to the Present Cr. 3

Survey of Western music from its beginnings to the present. Developing musical understanding and critical listening skills by focusing on major composers and styles, and by concentrating on social, political and cultural influences. Offered Every Term.

MUH 3310 Music History and Literature I Cr. 3

Survey of the most important developments in western music history from antiquity to 1700. Concentration on major composers and styles, as well as on significant historical, philosophical, artistic and cultural influences. Offered Fall.

Prerequisite: MUT 1160 with a minimum grade of C and MUH 1345 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Music degrees.

MUH 3320 Music History and Literature II Cr. 3

Survey of important developments in western music history from 1700 to 1900. Concentration on major composers and styles, as well as on significant historical, philosophical, artistic and cultural influences. Offered Winter.

Prerequisite: MUH 3310 with a minimum grade of C

MUH 3330 Music History and Literature III Cr. 3

Survey of important developments in western music history from 1900 to the present time. Concentration on major composers and styles, as well as on significant historical, philosophical, artistic and cultural influences. Offered Fall.

Prerequisite: MUH 3320 with a minimum grade of C

MUH 3360 Jazz History Cr. 3

Survey of major developments in jazz from its beginnings to the present. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

MUH 3990 Directed Study Cr. 1-3

Individualized research and work in music history or literature under the supervision of a faculty member. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major, minor, or concentration in Music or Music Honors.

Repeatable for 6 Credits

MUH 4990 BA Project Cr. 2

Directed study leading to completion of the B.A. project in music. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in a Bachelor of Arts degree.

Equivalent: MUA 4990, MUT 4990

MUH 5300 Music Research Cr. 3

Music bibliography and research techniques. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUH 5315 Special Topics in Music History Cr. 3

In-depth study of such topics as the historical development of opera and oratorio, symphonic or chamber music styles, or specialized study of individual composers. Course may be repeated when topics change. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

MUH 5340 Survey of World Music Cr. 3

Musical expressions of five or six non-European cultures en route to a better understanding of the peoples themselves. Attention given to biases, culturally-determined learning patterns, and aesthetics. No credit for graduate degrees in music. Offered Fall, Winter.

MUH 5350 Performance Literature and Pedagogy Cr. 3

Survey of solo and chamber repertoire from the Renaissance to the present, for students' major performance areas. No credit for graduate degrees in music. Offered Yearly.

MUH 5360 Jazz History Cr. 3

Survey of major developments in jazz from its beginnings to the present. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

MUH 5370 Diction and Song Literature I Cr. 3

Singers' diction in Italian, Latin, French and Spanish; methodologies, solo and chamber repertoire in these languages. No credit for M.Mus. degree in vocal performance. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Music, Music Honors, Theatre or Theatre Honors.

MUH 5380 Diction and Song Literature II Cr. 3

Singers' diction in German, Hebrew, Russian and English; methodologies, solo and chamber repertoire in these languages. No credit for M.Mus. degree in vocal performance. Offered Biannually.

Prerequisite: MUH 5370 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music, Music Honors, Theatre or Theatre Honors.

MUH 5993 Writing Intensive Course in Music Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for majors. Offered Fall, Winter.

Prerequisites: ((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

MUH 7315 Special Topics in Music History Cr. 3

In-depth study of such topics as the historical development of opera and oratorio, symphonic or chamber music styles, or specialized study of individual composers. Course may be repeated when topics change. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Repeatable for 6 Credits

MUH 7320 Studies in Renaissance Music Cr. 3

Fifteenth and sixteenth centuries, from Burgundian School through Palestrina. Special reports; research projects. Offered Biannually.

Prerequisite: MUH 5300 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MUH 7330 Studies in Baroque Music Cr. 3

From Monteverdi to 1750. Special reports; research projects. Offered Biannually.

Prerequisite: MUH 5300 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MUH 7340 Studies in Classical Music Cr. 3

From 1750 to 1825. Special reports; research projects. Offered Biannually.

Prerequisite: MUH 5300 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MUH 7350 Studies in Romantic Music Cr. 3

Nineteenth century. Special reports and research projects. Offered Biannually.

Prerequisite: MUH 5300 with a minimum grade of B-

Restriction(s): Enrollment is limited to Graduate level students.

MUH 7360 Studies in Twentieth Century Music Cr. 3

Special reports and research projects. Offered Biannually.

Prerequisite: MUH 5300 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MUH 7370 Studies in Advanced Literature for Conductors Cr. 3

Literature for various instrumental and choral ensembles from the Renaissance to the present; emphasis on stylistic characteristics, rehearsal techniques, and authenticity of performance. Offered Yearly.

Prerequisite: MUH 5300 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music; enrollment limited to students in the Master of Music program; enrollment is limited to Graduate level students.

MUH 7390 Studies in Jazz History Cr. 3

Continuation of MUH 5360. Offered Yearly.

Prerequisite: MUH 5360 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

MUH 7991 Directed Study in Music History Cr. 1-3

Research investigations in historical musicology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

MUH 8999 Master's Thesis Direction Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

MUP - MUSIC PRIVATE INSTRUCTION

MUP 1201 Organ: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1202 Organ: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1201 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1203 Organ: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1202 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1204 Organ: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1203 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1205 Organ: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1211 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1212 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1211 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1213 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1212 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1214 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1213 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1215 Piano: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1221 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1222 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1221 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1223 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1222 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1224 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1223 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1225 Voice: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1231 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1232 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1231 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1233 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1232 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1234 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1233 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1235 Strings: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1241 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1242 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1241 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1243 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1242 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1244 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1243 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1245 Woodwinds: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1251 Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1252 Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1251 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1253 Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1252 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1254 Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1253 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1255 Brasswinds: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1261 Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1262 Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1261 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1263 Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1262 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1264 Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1263 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1265 Percussion: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1271 Harp: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1272 Harp: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1271 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1273 Harp: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1272 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1274 Harp: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1273 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1275 Harp: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1281 Classic Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1282 Classic Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1281 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1283 Classic Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1282 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1284 Classic Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1283 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1285 Classic Guitar: Secondary Instruction Cr. 1

Offered Fall, Winter.

Repeatable for 4 Credits

MUP 1321 Jazz Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1322 Jazz Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1321 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1323 Jazz Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1322 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1324 Jazz Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1323 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1363 Jazz Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1362 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1364 Jazz Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1363 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1365 Jazz Percussion: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 1371 Jazz Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1372 Jazz Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1371 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1373 Jazz Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1372 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1374 Jazz Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1373 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 1375 Jazz Guitar: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 2201 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2202 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2201 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2203 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2202 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2204 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2203 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2211 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2212 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2211 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2213 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2212 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2214 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2213 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2221 Voice: Major Instruction Cr. 3

Offered Fall, Winter.

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2222 Voice: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2221 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2223 Voice: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2222 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2224 Voice: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2223 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2231 Strings: Major Instruction Cr. 3

Offered Fall, Winter.

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2232 Strings: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2231 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 2233 Strings: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2232 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2234 Strings: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2233 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2241 Woodwinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Course Material Fees: \$400**Repeatable for 6 Credits****MUP 2242 Woodwinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2241 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2243 Woodwinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2242 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2244 Woodwinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2243 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2251 Brasswinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Course Material Fees: \$400**Repeatable for 6 Credits****MUP 2252 Brasswinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2251 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2253 Brasswinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2252 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2254 Brasswinds: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2253 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2261 Percussion: Major Instruction Cr. 3**

Offered Fall, Winter.

Course Material Fees: \$400**Repeatable for 6 Credits****MUP 2262 Percussion: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2261 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2263 Percussion: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2262 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2264 Percussion: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2263 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2271 Harp: Major Instruction Cr. 3**

Offered Fall, Winter.

Course Material Fees: \$400**Repeatable for 6 Credits****MUP 2272 Harp: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2271 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2273 Harp: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2272 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2274 Harp: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2273 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2281 Classic Guitar: Major Instruction Cr. 3**

Offered Fall, Winter.

Course Material Fees: \$400**Repeatable for 6 Credits****MUP 2282 Classic Guitar: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2281 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2283 Classic Guitar: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2282 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 2284 Classic Guitar: Major Instruction Cr. 3**

Offered Fall, Winter.

Prerequisite: MUP 2283 with a minimum grade of C**Course Material Fees:** \$400**Repeatable for 6 Credits****MUP 3201 Organ: Principal Instruction Cr. 1**

Offered Fall, Winter.

Prerequisite: MUP 1204 with a minimum grade of C**Course Material Fees:** \$200**Repeatable for 2 Credits****MUP 3202 Organ: Principal Instruction Cr. 1**

Offered Fall, Winter.

Prerequisite: MUP 3201 with a minimum grade of C**Course Material Fees:** \$200**Repeatable for 2 Credits**

MUP 3203 Organ: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3202 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3204 Organ: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3203 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3205 Organ: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3211 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1214 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3212 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3211 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3213 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3212 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3214 Piano: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3213 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3215 Piano: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3221 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1224 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3222 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3221 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3223 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3222 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3224 Voice: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3223 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3225 Voice: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3231 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1234 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3232 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3231 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3233 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3232 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3234 Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3233 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3235 Strings: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3241 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1244 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3242 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3241 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3243 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3242 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3244 Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3243 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3245 Woodwinds: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3251 Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1254 with a minimum grade of C

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3252 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3251 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3253 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3252 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3254 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3253 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3255 Brasswinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: \$200
Repeatable for 4 Credits

MUP 3261 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1264 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3262 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3261 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3263 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3262 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3264 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3263 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3265 Percussion: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: \$200
Repeatable for 4 Credits

MUP 3271 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1274 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3272 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3271 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3273 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3272 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3274 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3273 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3275 Harp: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: \$200
Repeatable for 4 Credits

MUP 3281 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1284 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3282 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3281 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3283 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3282 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3284 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3283 with a minimum grade of C
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3285 Classic Guitar: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: \$200
Repeatable for 4 Credits

MUP 3321 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1324 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3322 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3321 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3325 Jazz Piano: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: \$200
Repeatable for 4 Credits

MUP 3331 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1334 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: \$200
Repeatable for 2 Credits

MUP 3332 Jazz Strings: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3331 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3335 Jazz Strings: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3341 Jazz Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1344 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3342 Jazz Woodwinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3341 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3345 Jazz Woodwinds: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3351 Jazz Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1354 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3352 Jazz Brasswinds: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3351 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3355 Jazz Brasswinds: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3361 Jazz Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1364 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3362 Jazz Percussion: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3361 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3365 Jazz Percussion: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 3371 Jazz Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 1374 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3372 Jazz Guitar: Principal Instruction Cr. 1

Offered Fall, Winter.

Prerequisite: MUP 3371 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 3375 Jazz Guitar: Secondary Instruction Cr. 1

Offered Fall, Winter.

Course Material Fees: \$200

Repeatable for 4 Credits

MUP 4201 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2204 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4202 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4201 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4203 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4202 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4204 Organ: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4203 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4211 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2214 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4212 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4211 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4213 Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4212 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4214 Piano: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4213 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4221 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2224 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4222 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4221 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4223 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4222 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4224 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4223 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4231 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2234 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4232 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4231 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4233 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4232 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4234 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4233 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4241 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2244 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4242 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4241 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4243 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4242 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4244 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4243 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4251 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2254 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4252 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4251 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4253 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4252 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4254 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4253 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4261 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2264 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4262 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4261 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4263 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4262 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4264 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4263 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4271 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2274 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4272 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4271 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4273 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 4272 with a minimum grade of C
Course Material Fees: \$400
Repeatable for 6 Credits

MUP 4274 Harp: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4273 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4281 Classic Guitar: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 2284 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4282 Classic Guitar: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4281 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4283 Classic Guitar: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4282 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4284 Classic Guitar: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4283 with a minimum grade of C

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4323 Jazz Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 3322 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4324 Jazz Piano: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4323 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4333 Jazz Strings: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 3332 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4334 Jazz Strings: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4333 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4343 Jazz Woodwinds: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 3342 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4344 Jazz Woodwinds: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4343 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4353 Jazz Brasswinds: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 3352 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4354 Jazz Brasswinds: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4353 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4363 Jazz Percussion: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 3362 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4364 Jazz Percussion: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4363 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4373 Jazz Guitar: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 3372 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4374 Jazz Guitar: Major Instruction Cr. 3

Offered Fall, Winter.

Prerequisite: MUP 4373 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)

Course Material Fees: \$400

Repeatable for 6 Credits

MUP 4470 Junior Recital Cr. 0

Required recital for junior-year performance majors; minimum of 30 minutes of music. Registration must be completed before recital is scheduled; pre-recital approval jury is required. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the Bachelor of Music program; enrollment limited to students in the Fine, Performing & Comm. Arts.

MUP 4480 Senior Recital Cr. 0

Required recital for senior-year performance or jazz studies majors; minimum of 60 minutes of music. Registration must be completed before recital is scheduled; pre-recital approval jury is required. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the Bachelor of Music program; enrollment limited to students in the Fine, Performing & Comm. Arts.

MUP 6201 Organ: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6202 Organ: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6203 Organ: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 6211 Piano: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6212 Piano: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6213 Piano: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 6221 Voice: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6222 Voice: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6223 Voice: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 6231 Strings: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6232 Strings: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6233 Strings: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 6241 Woodwinds: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Course Material Fees: \$200

MUP 6242 Woodwinds: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6243 Woodwinds: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 6251 Brasswinds: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6252 Brasswinds: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6253 Brasswinds: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUP 6261 Percussion: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6262 Percussion: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

MUP 6263 Percussion: Principal and Secondary Instruction Cr. 1

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

Course Material Fees: \$200

Repeatable for 2 Credits

MUT - MUSIC THEORY

MUT 1100 Elementary Music Theory Cr. 3

Terminology and standard notation, including intervals, triads, scales, rhythm, correlated ear training, and general musicianship. No degree credit for music majors. Offered Every Term.

MUT 1140 Theory I Cr. 3

Prior knowledge of scales, clefs, and key signatures. Triads, intervals, principles of four-part writing, voice leading and melody harmonization, including all diatonic triads, dominant and super tonic seventh chords, inversions, and nonharmonic tones. Offered Fall, Winter.

Prerequisite: MUT 1100 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUT 1150 Ear Training I Cr. 1

An introduction to sight singing, solfeggio, and the basic materials of tonal music including intervals, chords, simple melodies, and basic harmonic progressions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUT 1160 Theory II Cr. 3

Further study of diatonic harmony, including idiomatic chord functions and tonal sequences. Offered Winter, Spring/Summer.

Prerequisite: MUT 1140 with a minimum grade of C

MUT 1170 Ear Training II Cr. 1

A continuation of MUT 1150. Sight-singing and dictation of more advanced diatonic materials. Offered Winter, Spring/Summer.

Prerequisite: MUT 1150 with a minimum grade of C

MUT 1200 Beginning Composition I Cr. 2

Introduction to creative writing in twentieth and twenty-first century composition. Group composition projects and associated private lessons explore a broad range of contemporary styles and techniques. Topics include melodic studies, process, acoustics, polytonality, free atonality, serialism, timbre, postmodernism. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Undergraduate level students.

MUT 1210 Beginning Composition II Cr. 2

Introduction to creative writing in twentieth and twenty-first century composition. Group composition projects and associated private lessons explore a broad range of contemporary styles and techniques. Topics include rhythmic studies, notational exploration, indeterminacy, extended techniques, minimalism, pitch class sets, electronic music. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 2030 Keyboard Harmony I Cr. 1

First of a two-course sequence. Basic training in score reading, such as practice in various clefs and transpositions found in current instrumental writing. No credit after MUT 2040. Offered Biannually.

Prerequisite: MUA 2795 with a minimum grade of C and MUT 1160 with a minimum grade of C

MUT 2040 Keyboard Harmony II Cr. 1

Continuation of MUT 2030. Advanced harmonic progressions applied to the keyboard; figured bass; harmonization of soprano or bass; modulation; transposition, and score reading. Offered Biannually.

Prerequisites: ([MUT 2030 with a minimum grade of C])

MUT 2100 Counterpoint Cr. 2

Overall introduction to counterpoint with some emphasis on the style of J. S. Bach. Offered Fall.

Prerequisite: MUT 2140 with a minimum grade of C

MUT 2120 Jazz Theory and Harmony Cr. 3

Harmonic, rhythmic and melodic concepts used in jazz including basic chord nomenclature, non-tertian sonorities and advanced improvisation.

Offered Winter.

Prerequisite: MUT 1160 with a minimum grade of C

MUT 2140 Theory III Cr. 3

Study of chromatic harmony and voice leading; introduction to complete tonal structures. Offered Fall.

Prerequisite: MUT 1160 with a minimum grade of C

MUT 2150 Ear Training III Cr. 1

Sight singing and dictation of chromatic materials; more advanced work with rhythm and meter. Offered Fall.

Prerequisite: MUT 1170 with a minimum grade of C

MUT 2160 Theory IV Cr. 3

Twentieth- and twenty-first century music; impressionistic techniques. Mainstream compositional devices of melody, harmony and rhythm; serial music, electronic music, aleatoric music, contemporary notation. Offered Winter.

Prerequisite: MUT 2140 with a minimum grade of C

MUT 2170 Ear Training IV Cr. 1

Sight singing and dictation of more advanced chromatic material; introduction to ear training with post-tonal music. Offered Winter.

Prerequisite: MUT 2150 with a minimum grade of C

MUT 2200 Beginning Composition III Cr. 2

Students continue to develop compositional skill and technique. Small groups and associated private lessons explore writing for specific instrument families and larger combinations than those explored in the first year. Offered Fall.

Prerequisite: MUT 1210 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 2210 Beginning Composition IV Cr. 2

Continuation of MUT 2200. Offered Winter.

Prerequisite: MUT 2200 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 2885 Jazz Improvisation I Cr. 1

Techniques of individual jazz improvisation. Offered Fall.

Prerequisite: MUT 1160 with a minimum grade of C and MUT 1170 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

Repeatable for 2 Credits

MUT 2887 Jazz Improvisation II Cr. 1

Continuation of MUT 2885; emphasis on individual jazz improvisation skills. Offered Winter.

Prerequisite: MUT 2885 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment is limited to Undergraduate level students.

Repeatable for 2 Credits

MUT 3000 Orchestration Cr. 2

Practical course in arranging music for orchestra, including study of transposition, arrangements from a piano score; general treatment of range, relationship, timbre, balance of orchestral instruments. Offered Fall.

Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C

MUT 3200 Intermediate Composition I Cr. 2

Emphasizes refinement and personalization of student compositional activity through private composition lessons. Offered Fall.

Prerequisites: ([MUT 2210 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 3210 Intermediate Composition II Cr. 2

Continuation of MUT 3200. Offered Winter.

Prerequisites: ([MUT 3200 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 3990 Directed Study Cr. 1-3

Individualized research and work in music theory or composition under the supervision of a faculty member. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

Repeatable for 6 Credits

MUT 4200 Advanced Composition I Cr. 2

Creative writing in twentieth- and twenty-first century idioms. Aesthetic, stylistic and formal problems in private composition lessons employing contemporary techniques. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

MUT 4210 Advanced Composition II Cr. 2

Continuation of MUT 4200. Offered Winter.

Prerequisites: ([MUT 4200 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

MUT 4990 BA Project Cr. 2

Directed study leading to completion of the B.A. project in music. Offered Fall, Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in a Bachelor of Arts degree.

Equivalent: MUA 4990, MUH 4990

MUT 5060 Advanced Orchestration Cr. 3

Arranging and scoring for orchestra in all forms of ensemble structure. No credit for the M.Mus. in composition/theory degree. Offered Irregularly.

Prerequisite: MUT 3000 with a minimum grade of C

MUT 5085 History of Theory Cr. 3

Theoretical writings from Plato to Rameau to Schenker, in historical contexts. Offered for undergraduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 5110 Jazz Arranging and Composition I Cr. 3

Creative writing for small jazz and pop ensembles. Arranging for three to five pieces including ""head"" arrangements, block chord technique and contrapuntal writing. No credit for M.Mus. in jazz performance degree. Offered Fall.

Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C

MUT 5120 Jazz Arranging and Composition II Cr. 3

Creative writing for larger jazz and pop ensembles; jazz arranging for six to eighteen pieces combining various textures and timbres. No credit for M.Mus. in jazz performance degree. Offered Winter.

Prerequisite: MUT 5110 with a minimum grade of C

MUT 5130 Jazz Arranging and Orchestration Cr. 3

Arranging pieces with concentration on orchestrating for large jazz ensembles. No credit for M.Mus. in jazz performance degree. Offered Fall.

Prerequisite: MUT 5120 with a minimum grade of C

MUT 5200 Special Topics in Theory Cr. 3

In-depth study of such topics as set or serial theories, aesthetics and philosophies of musics, and recent theoretical developments. Student may repeat course when topic changes. Offered for undergraduate credit only. Offered Irregularly.

Prerequisite: MUT 5997 with a minimum grade of C

Equivalent: MUT 7200

Repeatable for 6 Credits

MUT 5220 Introduction to Schenkerian Analysis Cr. 3

Aesthetic premises and basic analytic procedures of tonal music, viewed from a Schenkerian perspective. Applications of graphic technique to short phrases and to larger forms (e.g., sonata) from a wide repertory (1700-1900). Offered for undergraduate credit only. Offered Biannually.

Prerequisite: MUT 5997 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 5240 Analysis of Twentieth-Century Music Cr. 3

Aesthetic and technical procedures of twentieth-century music. Applications of pitch-class set and interval analysis to short phrases and to large-scale organizational strategies of entire pieces. Offered for undergraduate credit only. Offered Biannually.

Prerequisite: MUT 5997 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 5280 Interactive Electronic Music Composition Cr. 3

Explores basic interactive electronic music composition using computer music software for sound. Offered Yearly.

MUT 5997 Analytical Techniques Cr. 3

Capstone course for Music Department. Structural analysis of tonal music in historical perspective. Credit not applicable to graduate degrees in music. Offered Winter.

Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C and MUH 3330 with a minimum grade of C

MUT 7020 Seminar in Schenkerian Analysis Cr. 3

Aesthetic premises and basic analytic procedures of tonal music, viewed from a Schenkerian perspective. Applications of graphic technique to short phrases and to larger forms (e.g., sonata) from a wide repertory (1700-1900). Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

MUT 7040 Seminar in Twentieth Century Music Cr. 3

Analysis of twentieth-century music using current applications of post-tonal theories. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

MUT 7050 Seminar in Music Theory Pedagogy Cr. 3

Study of materials, teaching techniques, philosophy and organization of music theory classes. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

MUT 7070 Advanced Jazz Theory and Analysis Cr. 3

Analysis and application of advanced harmonic, rhythmic and melodic concepts used in jazz improvisation and composition. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

MUT 7085 History of Theory Cr. 3

Theoretical writings from Plato to Rameau to Schenker, in historical contexts. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Music; enrollment is limited to Graduate level students.

MUT 7100 Graduate Composition Cr. 3

Advanced creative work in all of the idioms of twenty-first century musical composition. Offered Fall, Winter.

Prerequisite: MUT 4110 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

MUT 7200 Special Topics in Theory Cr. 3

In-depth study of such topics as set or serial theories, aesthetics and philosophies of musics, and recent theoretical developments. Student may repeat course when topic changes. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment is limited to Graduate level students.

Equivalent: MUT 5200

Repeatable for 6 Credits

MUT 7992 Directed Study in Theory Cr. 1-3

Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

MUT 8999 Master's Thesis Direction Cr. 1-8

Preparation of M.M. thesis project in composition/theory. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Master of Music program; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Music degree.

Repeatable for 8 Credits

NE - NEAR EASTERN STUDIES

NE 1900 Comparative Religion Cr. 3

Origins of religion: its social importance, its structure (fetish, totemism, myth, ritual). Pre-historic religion and the major religious traditions. Offered Winter.

NE 2000 Introduction to Islamic Civilization of the Near East Cr. 3

The origin of Islam; growth of Islamic thought and institutions; Islamic revival and reform in modern times. Offered Yearly.

NE 2010 The Bible and Ancient Mythology Cr. 3

The Bible and Biblical religion in the context of its antecedents in the ancient world. Offered Yearly.

NE 2030 The Age of Islamic Empires: 600-1600 Cr. 3

Historical evolution of the Islamic world from birth of Islam to height of Ottoman Empire. Islamic history and civilization in a world-historical context; developments indigenous to specific regions, such as Islamic Spain. Offered Yearly.

Equivalent: HIS 1800

NE 2040 The Modern Middle East Cr. 3

Survey of Middle East history in modern era, focusing on the nineteenth and twentieth centuries. Ottoman history from 1600: impact of European imperialism and nationalist movements, resulting in development of modern state systems, regional/national conflicts, Islamic response to modernization. Offered Yearly.

Equivalent: HIS 1810

NE 2060 Hebrew/Israeli Film: Trends and Themes in Israeli Cinema Cr. 3

Evolution of Hebrew/Israeli cinema from the beginning of the twentieth century to the present. Collectivism to individual concerns. From Yaakov Ben-Dov to Joseph Cedar. Course taught in English; films have English subtitles. Offered Fall.

NE 2700 Topics in Middle Eastern Studies Cr. 1-8

Specialized topics related to the Middle East: language, literature, etc. Offered Yearly.

Repeatable for 8 Credits

NE 3010 Survey of Jewish Civilization and History 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. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3010

NE 3011 Jewish History since 1492 Cr. 4

Major developments in Jewish History since the expulsion of the Jews from Spain in 1492. Specific topics include the impact of the Spanish expulsion, the Jews of the Ottoman Empire, Jews and the Italian Renaissance, Martin Luther and the Jews, the golden age of Polish Jewry, 1648, Shabbetai Tzvi, Hassidic Judaism, the Court Jews and Age of Absolutism, the impact of the Enlightenment, the French Revolution and the Age of Emancipation, the twin birth of Reform and Orthodox Judaism, Anti-Semitism and the Dreyfus Affair, Zionism and other forms of Jewish Nationalism, Hitler and the Final Solution, the creation of the State of Israel, and Jews in Post-World War II America, Israel, Europe, and the Soviet Union. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3011

NE 3015 History of Judaism and Jewish Thought Cr. 4

Development of Judaism and Jewish thought from early beginnings in the Hebrew Bible to contemporary American Jewish religious developments. Offered Fall.

Equivalent: HIS 3015

NE 3040 Twentieth Century Middle East Cr. 3

The contemporary Middle East; emphasis on social and economic development. Investigation of issues that identify the region, such as oil, gender issues, fundamentalism, and regional conflicts. Offered Yearly.

Equivalent: HIS 3320

NE 3060 Ancient N E Lit Cr. 3

Offered Fall.

NE 3061 Oral History in Middle Eastern Tradition Cr. 3

Methodologies and practices of oral history. Study of the culture, history and shared experiences of Diaspora communities originating from the Middle East. Offered Winter.

Equivalent: ANT 3061

NE 3225 Modern Israeli Culture: A Pluralistic Perspective Cr. 3

Minorities in Israel; the Kibbutz; women in public life; the Arab in Israeli literature; the press; education; technology; archaeology; music and dance. Taught in English. Offered Winter.

NE 3240 Survey of Modern Hebrew Literature in English Translation Cr. 3

Modern Hebrew literature from the end of the nineteenth century to the present; includes major authors from the European, pre-state and Israeli periods. Texts are in English translation. The texts in Hebrew are also available Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HEB 3240

NE 3320 Muhammad: Life of the Prophet Cr. 3

Introduction to the historical Muhammad in context of religious, political, social and economic life of seventh century Arabia. Aspects of his career, from religious to secular, including his relationship with other religious communities. Offered Biannually.

NE 3520 Women and Gender in Middle East History Cr. 3

Women's role in Middle East history; impact of religion, culture, social and economic change on construction of gender in the Middle East. Offered Yearly.

Equivalent: GSW 3520

NE 3550 Arab Society in Transition Cr. 3

Distinctive social and cultural institutions and processes of change in the Arab Middle East. Regional variations; background and discussion of current political and economic systems and their relations to international systems. Offered Irregularly.

Equivalent: ANT 3550

NE 3990 Directed Study Cr. 3-6

Readings; consultations and reports. Offered Every Term.

Repeatable for 9 Credits

NE 5000 Globalization, Social History and Gender in the Arabian Gulf Cr. 3

Social history of the Arabian Gulf (especially Bahrain, Qatar, and the UAE) in the age of globalization. Contemporary history with special emphasis on gender relations as an index of current social developments in the region. Offered Fall.

Equivalent: HIS 5960

NE 5100 Teaching of Arabic as a Foreign/Second Language (TAFL) Cr. 3

Theoretical and conceptual framework of second language learning. Proper training in pedagogy as related to learning Arabic as a foreign/second language. Offered Yearly.

Equivalent: ARB 5100

NE 5110 History and Development of Islamic Political Thought Cr. 3

Historical analysis of political Islam through study of the precepts and historical vicissitudes impacting the Islamic world from within and from external forces. Offered Fall, Winter.

Prerequisites: ([NE 2030 with a minimum grade of D-] OR [NE 3040 with a minimum grade of D-])

Equivalent: PS 5760

NE 5210 Arabic Sociolinguistics Cr. 3

Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. Offered Fall.

Equivalent: ARB 5210, LIN 5210

NE 5220 Muslim Personal Law Cr. 3

Study of Muslim family law, with attention to the status of women and children in the law. Areas include: betrothal, marital contracts, forms of marital dissolution, laws of inheritance, and child custody. Focus on classical interpretation of the law, and its application in modern times. Offered Fall.

NE 5230 Structure of Arabic Cr. 3

Survey of historical constitution and theoretical structure of Arabic. Offered Yearly.

Equivalent: ARB 5230, LIN 5230

NE 5300 Quran: History and Interpretation Cr. 3

Traditional and revisionist narratives of the canonization of the Quran; textual features of the Quran; history of quranic hermeneutics and exegesis Offered Yearly.

NE 5700 Topics in Middle Eastern Studies Cr. 1-4

Special topics in Middle Eastern politics, language, and literature. Offered Yearly.

Repeatable for 8 Credits

NE 5710 Islam and the Challenge of Modernity Cr. 3

Influence of Enlightenment values and colonial institutions on the social, political, and ideological structures of the Islamic World. Offered Biannually.

NE 5990 Directed Study Cr. 1-3

Offered Every Term.

Repeatable for 9 Credits

NE 5993 Writing Intensive Course in Near Eastern and Asian Studies Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

NE 5999 Internship in Near Eastern Studies Cr. 3

Internship in a public or private organization related to Near Eastern studies. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Near Eastern Languages , Near Eastern Languages Honors, Near Eastern Studies or Near Eastern Studies Honors.

NE 6005 Survey of Jewish Civilization and History 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. Offered for graduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: HIS 6005

NE 6031 Methodologies and Research in Oral History: Near Eastern and Asian Societies Cr. 3

Techniques, methodologies and legalities of studying and interpreting alternative data for historical research. Social and cultural sensitivities of Near Eastern and Asian societies and the gathering of historical information through oral research. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NE 6120 Arab Women Through Literature Cr. 3

Arabic literature by women, expressing gender vision of society, history, and women's role in Arab world and North Africa. Offered Biannually.

Prerequisites: ([NE 2030 with a minimum grade of D-] OR [NE 3040 with a minimum grade of D-])

Equivalent: ARB 6120

NE 6500 Religion and Society Cr. 3

Role of religion in societies from ancient to contemporary times. Religion as related to science, violence, patriarchy, feminism, art, government, ethics, and issues of religious pluralism. Offered Irregularly.

NE 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 7010, FRE 7010, GER 7010, ITA 7010, SLA 7010, SPA 7010

NE 7100 Islam and the West Cr. 3

Areas covered include: emergence of Muslim political power in seventh century Middle East; Iberian Peninsula and religious pluralism; Crusades and their impact on religion and society in Middle East; colonialism and transfer of Enlightenment values to Islamic world; Muslim migration to Europe and America. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

NE 7300 Qur'an: History and Interpretation Cr. 3

Traditional and revisionist narratives of the canonization of the Qu'ran; textual features of the Qu'ran; history of qur'anic hermeneutics and exegesis Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

NE 7999 Master's Essay Direction Cr. 1-3

Offered Irregularly.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

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

Offered Irregularly.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

NEN - NANOENGINEERING

NEN 5000 Introduction to Nanotechnology and Nanomedicine Cr. 4

Basic understanding of nanomaterials synthesis, characterization, manufacturing methods, and their biomedical applications. Offered Winter.

Prerequisites: ([BE 1300 with a minimum grade of D-] OR [BE 1310 with a minimum grade of D-])

NEN 5100 Nanoengineering Lab Cr. 2

Hands-on experience in the synthesis and characterization of nanomaterials, as well as device fabrication and biomedical applications. Offered Winter.

Prerequisites: ([NEN 5000 with a minimum grade of D-])

Corequisite: NEN 5000

Course Material Fees: \$100

NEN 5200 Scale-down Engineering - from Engineered Systems to Nanotechnology Cr. 4

Basic understanding of scale-down engineering in a wide range of systems including sensors, drug delivery, manufacturing, electromagnetic materials, and imaging. Offered Fall.

Prerequisites: ([BE 1300 with a minimum grade of D- and BE 1300] OR [BE 1310 with a minimum grade of D- and BE 1310]) AND ([NEN 5000])

NEN 5300 Nanoengineering Research and Capstone Design Cr. 4

Formulation and solution of open-ended research problems related to nanomaterials and nanotechnology using current methods, tools and principles of nano-engineering. Offered Winter.

Prerequisites: ([NEN 5000 with a minimum grade of D-]) AND ([NEN 5100 with a minimum grade of D-]) AND ([NEN 5200 with a minimum grade of D-])

NEN 5400 Nanoengineering Seminar Cr. 1

State-of-the-art research in nanotechnology by attending seminars given by nationally and internationally prominent. Offered Fall, Winter.

Prerequisites: ([BE 1300 with a minimum grade of D-] OR [BE 1310 with a minimum grade of D-])

NFS - NUTRITION AND FOOD SCIENCE

NFS 2030 Nutrition and Health Cr. 3

Food as a carrier of nutrients; food availability; nutrient utilization including digestion, metabolism and excretion. Patterns of food consumption based on biological, psychological and social needs; and anthropological findings. Meets General Education Laboratory Requirement only when taken concurrently with coreq: NFS 2220. Offered Every Term.

NFS 2130 Introductory Food Science Cr. 3

Chemical, physical and biological properties of foods which affect their keeping quality, nutritional and organoleptic values. For students interested in the scientific study of foods. Offered Every Term.

Prerequisites: ([CHM 1000 with a minimum grade of C-])

NFS 2140 Introductory Food Science Laboratory Cr. 1

Experimental study of principles discussed in NFS 2130. For students interested in the scientific study of food. Offered Every Term.

Prerequisite: NFS 2130 (may be taken concurrently) with a minimum grade of C-

Course Material Fees: \$90

NFS 2220 Nutrition Laboratory Cr. 1

Laboratory course for introductory nutrition. Meets General Education Laboratory Requirement only when taken concurrently with coreq: NFS 2030. Offered Every Term.

Prerequisites: (May be taken concurrently: [NFS 2030 with a minimum grade of C-] OR [NFS 3230 with a minimum grade of C-])

Course Material Fees: \$90

NFS 3230 Human Nutrition Cr. 3-4

Principles of the science of nutrition. Emphasis on physiological requirements as well as biochemical and metabolic processes of nutrients for human growth, development and maintenance within the life cycle. Honors students participate in additional reading, discussion and presentations. Offered Every Term.

Prerequisites: ([NFS 2030 with a minimum grade of C-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Nutrition and Food Science or Nutrition and Food Science Hon.

NFS 3270 Eating Disorders Cr. 3

Causes and treatments of anorexia nervosa, bulimia nervosa, binge eating, and overeating, from biological, psychological, and social perspectives. Offered Winter.

Prerequisite: PSY 1010 with a minimum grade of C- or PSY 1020 with a minimum grade of C-

NFS 4100 Nutrition Care Process I Cr. 2

Interpretation of lab values in assessing patients, review of medical records, medical terminology. Offered Fall.

Prerequisite: NFS 5220 (may be taken concurrently) with a minimum grade of C and NFS 5350 (may be taken concurrently) with a minimum grade of C and NFS 3230 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.

Course Material Fees: \$90

NFS 4120 Nutrition Care Process II Cr. 2

Nutritional assessment, documentation in the medical record, planning therapeutic diets. Offered Winter.

Prerequisite: NFS 4100 with a minimum grade of C- and NFS 5250 (may be taken concurrently) with a minimum grade of C-

NFS 4150 Advanced Food Science Cr. 3

Principles of food science such as: chemical ingredients of food, issues in food product development, sensory evaluation, and microbiological safety of food. Lab provides hands-on experience and enhances understanding of major issues in the overall quality and safety of food. Offered Winter, Spring/Summer.

Prerequisites: ([BIO 2200 with a minimum grade of D-]) AND ([CHM 2220 with a minimum grade of D-]) AND ([NFS 2130 with a minimum grade of D-])

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students.

Course Material Fees: \$90

NFS 4160 Food Laws and Regulations Cr. 3

State, federal and international food law; interpretations of regulatory food standards and determination of conformity of food products to them. Methods of food inspection. Role of the food law in assuring food safety, wholesomeness and nutritional quality. Offered Fall, Winter.

Prerequisite: (NFS 2210 with a minimum grade of C- or NFS 3230 with a minimum grade of C-) and NFS 2130 with a minimum grade of C-

NFS 4200 Dietetic Practice I Cr. 4

Supervised practice in various dietetic services venues. Offered Winter.

Prerequisite: NFS 4100 with a minimum grade of D- and NFS 5350 with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$400

NFS 4210 Dietetic Practice II Cr. 10

Supervised practice in specialty and critical care areas and in community settings; experiences in developing, implementing, evaluating and documenting care plans for individuals needing specialized nutrition support and nutrition education programs for health promotion and for high risk groups. Offered Fall.

Prerequisite: NFS 5230 with a minimum grade of C- and NFS 5250 with a minimum grade of C- and NFS 5200 (may be taken concurrently) with a minimum grade of C- and NFS 5220 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.

Course Material Fees: \$700

NFS 4220 Dietetic Practice III Cr. 10

Near entry-level practice experience in management of nutritional care and nutrition services in the three areas of dietetic practice: food service and clinical and community dietetics. Offered Winter.

Prerequisite: NFS 4210 with a minimum grade of C-

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in a PBC in Dietetics degree.

Course Material Fees: \$700

NFS 4230 Macronutrient Metabolism Cr. 3

Focus on normal human nutrition and physiological functions. Biochemical properties of macronutrients and their interrelationships at the cellular and subcellular level. Offered Fall.

Prerequisites: ([NFS 2130 with a minimum grade of D-]) AND ([NFS 3230 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

NFS 4231 Human Nutrition: Micronutrients Cr. 3

Principles of micronutrient metabolism, including function, toxicity, and deficiency; principles and techniques for assessing micronutrient status. Micronutrients in the physiopathology of chronic disease; sources of micronutrients and factors affecting nutrient bioavailability. Impact of disease and/or genetics on nutrient function and nutrient requirement; role of fortification, enrichment, and/or supplementation of micronutrients in the food supply and on health outcomes. Offered Winter.

Prerequisites: ([NFS 2130 with a minimum grade of D-]) AND ([NFS 3230 with a minimum grade of D-])

NFS 4800 Special Topics in Nutrition and Food Science Cr. 1

New and emerging topics in nutrition and food science or topics presented by a visiting faculty member in his or her research area. Topics to be announced in Schedule of Classes. Offered Irregularly.

Prerequisites: ([BIO 1050 with a minimum grade of D-] OR [BIO 2870 with a minimum grade of D-]) AND ([NFS 2030 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

NFS 4990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 4 Credits

NFS 5130 Food Chemistry Cr. 3

Study of the chemical constituents of foods, their relationship to the biological and physical properties, and overall food quality. Offered Fall, Winter.

Prerequisites: ([CHM 2220 with a minimum grade of C-]) AND ([NFS 2130 with a minimum grade of C-])

NFS 5140 Laboratory Techniques in Nutrition and Food Science Cr. 3

Basic modern and classical analytical techniques and instruments in nutrition and food science. Background theory to principles of instrumental assays. Procedures for evaluation of macro and micro food components analysis. Physiological functions relevant to nutrition. Offered Fall, Spring/Summer.

Prerequisites: ([CHM 2220 with a minimum grade of C-]) AND ([NFS 2130 with a minimum grade of C-]) AND ([NFS 2210 with a minimum grade of C-])

Course Material Fees: \$90

NFS 5200 Advanced Dietetics Cr. 3

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. Offered Fall.

Prerequisite: NFS 5230 with a minimum grade of C- and NFS 5250 with a minimum grade of C-

Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.

Course Material Fees: \$90

Equivalent: NFS 4200

NFS 5220 Community Nutrition Cr. 2

Introduction to management of nutritional care in healthy and at-risk persons throughout the lifespan. Identifying problems and planning interventions to meet population nutritional problems and to reduce nutrition-related health risks in community settings. Community assessment; organization and function of community agencies; interventions appropriate to small and large groups, including nutrition education. Offered Fall, Winter.

Prerequisite: NFS 2130 with a minimum grade of C- and NFS 2140 with a minimum grade of C- and (NFS 2210 with a minimum grade of C- or NFS 3230 with a minimum grade of C-) and NFS 5230 with a minimum grade of C- and NFS 5250 with a minimum grade of C-

NFS 5230 Nutrition and Metabolism Cr. 3

The physio-biochemical properties of nutrients and their bionutritional interrelationships at the cellular and sub-cellular level. Carbohydrate, protein, and lipid metabolism and the role of vitamins and minerals in these metabolic processes. Offered Fall, Winter.

Prerequisites: ([NFS 3230 with a minimum grade of C-])

NFS 5250 Nutrition and Disease Cr. 4

Application of the principles of biochemistry and physiology in the study of nutrient metabolism as altered by disease. The physio-biochemical basis for diet in the treatment of disease. May include some field experiences or clinical assignments. Units on team approach to patient care also included. Offered Winter.

Prerequisites: ([NFS 4230 with a minimum grade of C-])

NFS 5350 Organization and Management of Food Service Systems Cr. 4

Survey of food service systems; factors affecting their successful operation. Components of quality assurance supporting well-being of target markets. Identification of operative management skills. Offered Fall.

Prerequisite: NFS 2130 with a minimum grade of C- and NFS 2140 with a minimum grade of C- and (NFS 2210 with a minimum grade of C- or NFS 3230 with a minimum grade of C-)

NFS 5360 Management of Nutritional Care and Services Cr. 3

Application of management theory and principles in the three areas of dietetic practice; career planning and professional role development. Offered Winter.

Prerequisite: NFS 5200 with a minimum grade of C- and NFS 4220 (may be taken concurrently) with a minimum grade of C-

NFS 5990 Honors Directed Study Cr. 1-4

Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Nutrition and Food Science Hon; enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

NFS 5992 Supervised Field Experience Cr. 2-4

Supervised field experience designed to correlate classroom theory with practical work. Offered Every Term.

NFS 5996 Research in Food Science and Nutrition Cr. 1-4

Research projects under direction of faculty active in research. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Unranked Undergrad, Freshman, Sophomore, Junior or Senior; enrollment is limited to Undergraduate level students.

Repeatable for 6 Credits

NFS 6000 Nutritional Biochemistry Cr. 3

Biochemical effects of nutrients at cellular and organ levels. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NFS 6020 Nutrient and Gene Interaction Cr. 3

Introduction to molecular genetics concepts, terminology and molecular methodologies, with emphasis on nutrition and food science. Overview of nutrition and gene interaction in onset and progression of disease, cancer, and aging. Offered for graduate credit only. Offered Biannually.

Prerequisites: ([NFS 5130 with a minimum grade of C-]) AND ([NFS 5140 with a minimum grade of C-]) AND ([NFS 5230 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Graduate level students.

NFS 6030 Microbiological Safety of Foods Cr. 3

Food-borne microorganisms as causes of human illnesses, including bacteria, mold, viruses and parasites. Microbial toxins and their mode of action. Antimicrobial agents in food. Means of prevention and protection. Offered Fall.

Prerequisites: ([NFS 4150 with a minimum grade of C-]) AND ([NFS 5130 with a minimum grade of C-])

NFS 6150 Functional Foods for Health Cr. 3

Introduction to functional foods (those with specific health benefits) and nutraceuticals, as well as a variety of functional food ingredients and extracts, their chemical and potential health promoting properties, processing, production, safety and regulation. Offered Winter.

Prerequisite: NFS 2030 with a minimum grade of D- and NFS 2130 with a minimum grade of D- and NFS 3230 with a minimum grade of D-

Restriction(s): Enrollment is limited to Graduate level students.

NFS 6210 Nutrition through the Life Cycle Cr. 3

Biological growth and nutritional requirements from fetal stages of development through aging. Nutritional standards in light of current epidemiological data and scientific research. Offered for graduate credit only. Offered Irregularly.

Prerequisites: ([NFS 5230 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

NFS 6230 Nutrition and Physical Performance Cr. 3

How nutrients affect physical fitness and physical performance; how physical performance can be improved by adopting optimal dietary practice and how exercise and optimal nutrition can prevent human diseases. Offered Fall.

Prerequisites: ([NFS 5230 with a minimum grade of C])

NFS 6270 Eating Behavior and Body Weight Regulation Cr. 3

Central and peripheral regulation of food intake, normal and abnormal eating behavior, physiological and psychological regulation of body weight, different models of obesity, etiology of treatment of obesity. Offered Winter.

Prerequisite: BIO 2870 with a minimum grade of C-

NFS 6850 Controversial Issues Cr. 2

Topics to be announced in Schedule of Classes. Offered Fall.

Prerequisite: NFS 5230 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Nutrition and Food Science or Nutrition and Food Science Hon.

NFS 6860 Controversial Issues in Clinical Nutrition: Dietetics Cr. 2

Current controversial topics; differing points of view will be debated; discussion of modes of communication of nutrition information. Offered Winter.

Prerequisite: NFS 5230 with a minimum grade of D-

Restriction(s): Enrollment is limited to students with a major in Dietetics; enrollment limited to students in the BS in Dietetics or PBC in Dietetics programs.

NFS 7000 Nutritional Metabolomics and Bioinformatics Cr. 3

Introduction to and application of the "omics" technologies to nutrition: genomics, proteomics, and metabolomics. Examples and exercises using bioinformatic software for multivariate data analyses. Offered Winter.

Prerequisite: NFS 6000 with a minimum grade of C- and STA 1020 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$90

NFS 7060 Research Problems in Nutrition and Food Science Cr. 2

Research orientation: acquaintance with published data, principles of design, methods of collecting data, and basic statistical analysis. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

NFS 7140 Advanced Laboratory Techniques in Nutrition and Food Science Cr. 4

Laboratory techniques in nutrition and food science research, including: animal experimentation, isotope use and quantitation, radioimmunoassay and receptor assays, atomic absorption; chromatography; microbial assays. Offered Yearly.

Prerequisite: (BMB 5010 with a minimum grade of C- or CHM 5600 with a minimum grade of C-) and NFS 5140 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$90

NFS 7230 Nutrition and Physical Performance Cr. 3

How nutrients affect physical fitness and physical performance; how physical performance can be improved by adopting optimal dietary practice and how exercise and optimal nutrition can prevent human diseases. Offered Fall.

Prerequisite: NFS 5230 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

NFS 7240 Nutritional Epidemiology Cr. 3

Introduction to epidemiology concepts and terminology. Emphasis on examining the associations between nutrition and chronic disease. Offered Irregularly.

Prerequisites: ([NFS 2210 with a minimum grade of C-])

Restriction(s): Enrollment is limited to Graduate level students.

NFS 7250 Nutrition and Aging Cr. 3

Topics include: conserved pathways determining longevity and the role of nutrition in these pathways; role of metabolic/nutritional factors on longevity and successful aging; premature aging disorders; interventional strategies impacting longevity and health span. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NFS 7850 Graduate Seminar Cr. 1

Presentations by graduate students, graduate faculty, and visiting scientists. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NFS 7890 Advanced Workshop Cr. 2-4

Application of theoretical principles to selected areas of nutrition and food science. Topics and prerequisites to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

NFS 7990 Directed Study Cr. 1-4

Offered for each area of specialization. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

NFS 7991 Lab Rotation Cr. 1

For new graduate students; students spend at least two weeks in all research labs. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

NFS 7996 Research Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 20 Credits

NFS 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

NFS 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NFS 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NFS 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NFS 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

NFS 9999 Doc Diss R & D Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

NUR - NURSING

NUR 2010 Health Assessment: History Taking and Physical Examination Cr. 3

Foundational learning experiences for understanding and performing the health assessment of the individual; includes systematic history-taking and physical examination. Holistic health assessment from health promotional, cultural, nutritional, mental health, and developmental perspectives. Assessment approaches of various nurse theorists. Offered Fall.

NUR 2030 Pathophysiology Related to Nursing Practice Cr. 3

Exploration of processes by which disease occurs, body responses, and effects of diseases on normal physiology. Diseases explored in terms of definition, diagnosis, etiology, epidemiology, clinical manifestations, cultural and socioeconomic factors, and contemporary research. Offered Fall.

NUR 2050 Supportive Measures for Basic Care Needs Cr. 5

Supportive nursing care strategies for individuals in the context of family and community. Emphasis on scientific basis of supportive care, critical thinking and nursing process, development of basic nursing care skills, therapeutic communication, and understanding of cultural context. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [NUR 2010 with a minimum grade of C]) AND (May be taken concurrently: [NUR 2020 with a minimum grade of C])

Course Material Fees: \$85

NUR 2060 Nursing Implications of Drug Administration Cr. 3

Concepts of pharmacotherapeutics across the life cycle: theories of drug actions mediating physiological processes, variables affecting drug actions, and unusual and adverse reactions. Development of nursing role incorporating principles of safe, therapeutic, legal, and ethical principles. Psychological and cultural variations addressed. Contemporary research explored. Pharmacological math competency required. Offered Fall.

Prerequisite: BIO 2870 with a minimum grade of C

NUR 2070 Professional Nursing in the Future: Strategies for Health Promotion Cr. 3

Preparation for professional practice; emphasis on developing knowledge and skills for health promotion within the context of groups and the community. Impact of nursing theories and research on practice, directed toward health promotion issues. Strategies for health promotion; focus on group process and teaching/learning. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Nursing.

NUR 2995 Special Topics in Foundations of Professional Nursing Cr. 3

Characteristics of nursing as a profession: ethical, legal, and professional governing structures; foundation for effective communication and documentation. Nursing process as it applies to health promotion; problem-based care in the health care arena. The phenomenon of health as experienced by individuals across the lifespan in family, group, and community. Offered Fall.

Prerequisite: PSY 2400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the College of Nursing.

NUR 3005 Integrated Pathophysiology and Pharmacology for Nursing Practice: Advanced Concepts Cr. 4

Alterations in normal physiological functioning that occur as a result of a disease process and integrates concepts of pharmacological mechanisms employed as therapy. Current theories of pathophysiological mechanisms are discussed in-depth. Theories of drug actions, physiological processes mediating drug actions, variables affecting drug actions, and beneficial, unusual and adverse drug therapy responses are also examined. Offered Fall, Spring/Summer.

NUR 3010 Restorative Care of Adults and Elders with Acute Illness Cr. 5

Theory and practice in providing nursing care to adults throughout the lifespan experiencing acute disruptions in living patterns within the context of their families and in a community-based systems of health care. Emphasis on practice within a theoretical framework using research-based interventions. Offered Fall, Winter.

Prerequisite: NUR 2050 with a minimum grade of C- and NFS 3230 with a minimum grade of C-

NUR 3015 Restorative Care: Psychiatric Mental Health Nursing Across the Lifespan Cr. 5

Nursing care to individuals experiencing emotional crises and/or acute chronic psychiatric illnesses within the context of their families and communities. Biosocial theories of mental health and illness, determinants of mental illness; cultural and socioeconomic factors and psychotherapeutic modalities. Public and private systems of care for mental health promotion, restoration, and rehabilitation. Offered Fall, Winter.

Prerequisite: NUR 2050 with a minimum grade of C-

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

NUR 3020 Restorative Care of Adults and Elders with Chronic Illness Cr. 5

Theory and practice in providing nursing care to adults throughout the adult lifespan experiencing chronic disruptions in living patterns within the context of their families in a community based system of healthcare. Offered Winter, Spring/Summer.

Prerequisite: NUR 3010 with a minimum grade of C-

NUR 3400 Introduction to Nursing Research Cr. 2

Introduction to the research process and research utilization in nursing practice. Research problems, access and retrieval of research literature and databases, reading and critiquing research studies, and individual and organizational strategies to promote research-based practice. Offered Winter, Spring/Summer.

Prerequisite: NUR 2050 with a minimum grade of C-

NUR 3405 Introduction to Nursing Research and Evidence-Based Practice: RN-BSN Cr. 3

Introduction to basic concepts and methods of research. The course provides basic information about nursing research problems, principles of evidence-based nursing research, access and retrieval of research literature and databases, reading and critiquing research reports, ethical issues related to research, and individual strategies and organizational mechanisms to promote research-based practice. The research process is examined as a foundation for critical thinking and scholarship. Offered Fall.

NUR 4010 Integrative Care of Children and Their Families Cr. 5

Theory and practice in care of children in various states of health in the context of their families. Emphasis on knowledge of age-appropriate normal biological, physical, psychosocial, cognitive, moral, spiritual, and social development as a basis for implementing health promotion, supportive, and restorative practices with children of all ages in the context of their families in community-based systems of health care. Offered Fall, Spring/Summer.

Prerequisite: NUR 2050 with a minimum grade of C-

Restriction(s): Enrollment limited to students with a class of Senior.

NUR 4020 Integrative Care of the Perinatal Family Cr. 5

Theory and practice in care of the perinatal family: woman, fetus, newborn, and other members from preconception to postpartum and newborn in the first month of life. Emphasis on integrative care: health assessment, risk assessment, health promotion, supportive and restorative care of the woman and the family. Exploration of ethical and consumer movement effects on prenatal care. Offered Fall, Spring/Summer.

Prerequisite: NUR 2050 with a minimum grade of C-

Restriction(s): Enrollment limited to students with a class of Senior.

NUR 4040 Leadership and Management in Nursing Practice Cr. 4

Theory and skill development in leadership processes in nursing practice. Assessment of a health care system, analysis of nurses' roles, organizational design systems theory, leadership and management theory, culture, decision-making, delegation, conflict management, and planned change. Offered Fall.

NUR 4050 Theory of Caring for Complex, Critically Ill Patients Cr. 3

An opportunity for the student to integrate knowledge of anatomy, physiology, pathophysiology and pharmacology in the care of patients with complex acute illnesses. Fosters the advancement of critical reasoning, clinical knowledge, and clinical judgment through case studies, lecture and group discussions. Offered Fall, Winter.

NUR 4060 Synthesis of Core Nursing Knowledge Cr. 5

Precepted, integrative clinical immersion course that integrates the knowledge of ethics, standards, and expectations of professional nursing roles with an emphasis on critical thinking. The student will have an opportunity to synthesize foundational concepts and master competencies and skills of the advanced beginner in professional nursing. The focus is on integration of professional nursing behaviors within a complex organizational environment, and synthesis of core nursing knowledge. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [NUR 4040]) AND (May be taken concurrently: [NUR 4120]) AND (May be taken concurrently: [NUR 4050])

NUR 4120 Community Focused Nursing Practice Cr. 5

Analysis of role of professional nurse in community settings: caring for individuals and groups from diverse cultural backgrounds at various developmental stages and at any point on the health-illness continuum. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior.

NUR 4300 Nursing Informatics Cr. 3

Opportunity for nursing students or registered nurses to develop knowledge and skills in nursing informatics. Offered Fall, Spring/Summer.

NUR 4505 Professional Nursing in the Future: Current Issues for Professional Practice RN-BSN Cr. 3

Examination and discussion of issues related to professional nursing practice (RN to BSN). The current professional practice of nurses transitioning to a BSN encompasses a role change and exposure to political processes (micro to national issues), bioethical issues in U.S. health care, and educational pathways in nursing and related policy implications, the importance of interprofessional education for nurses, and the various levels of legal responsibility for the practicing professional nurses. These discussions will assist the new graduate in becoming an informed and politically active professional, an ethically sound provider and consumer of health care services, as well as an informed citizen capable of providing leadership to those who are not health care professionals. Offered Fall.

NUR 4600 Gerontological Nursing Perspectives in Health and Illness Cr. 3

Knowledge from the fields of gerontology and geriatrics used to enhance the student's nursing perspective when providing nursing care to meet the complex health care needs of healthy and frail older adults and their families. As students learn about the physical and psychosocial problems encountered with aging, they will be engaged in discussions about the contributions that can be brought forth from nursing and multiple disciplines to enhance the health of older adults. Offered Winter.

NUR 4800 Transcultural Health Through the Life Cycle Cr. 3

Transcultural health differences and similarities in selected Western and non-Western cultures, from birth through old age. Use of theories and research methods from the health and social sciences and humanities in study and analysis of different cultures. Offered Fall, Spring/Summer.

Restriction(s): Enrollment limited to students with a class of Junior or Senior.

NUR 4990 Directed Study Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Nursing.

NUR 5993 Writing Intensive Course in Nursing Cr. 0

Successful completion of this course satisfies the University's General Education Writing Intensive Course requirement. Prior to graduation, all students must demonstrate the ability to communicate effectively with specialized or professional audiences by successfully completing the writing requirements. Students must be able to analyze, synthesize, and evaluate current information from literature on their topical area. Offered for undergraduate credit only. Offered Every Term.

Prerequisites: ((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100) OR ((BA) Competencies Waiver with a test score minimum of 100)

Restriction(s): Enrollment is limited to Undergraduate level students.

NUR 6510 Health Economics, Policy, and Professional Issues for APNs Cr. 3

Examination of the major health policy and professional issues relevant to the advanced-practice nurse. Students will be assisted in the synthesis of theoretical and pragmatic aspects of issues of concern in order to develop confidence in their skills and establish an APN practice. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7000 Statistics in Nursing Cr. 3

Introduction to statistical analysis in nursing research. Topics include: levels of measurement, statistical inference, selected descriptive and inferential statistics for parametric and nonparametric conditions, and selected statistics used to summarize results from multiple studies (i.e., meta-analytic statistics). Offered Spring/Summer.

Prerequisite: NUR 3400 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7015 Research for Evidence-Based Nursing I Cr. 4

Identification, review, and evaluation of existing research and other relevant evidence for application in nursing. Application of basic research knowledge and research utilization principles to begin synthesizing the adequacy of the evidence for application in nursing. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students.

NUR 7018 Research for Evidence-Based Nursing II Cr. 3

Continuation of NUR 7015. Designed to advance the understanding of evidence-based nursing and to advance the ability to synthesize existing evidence in a nursing area. Based on this synthesis, students will be able to develop evidence-based nursing protocols/guidelines, or proposals for obtaining additional evidence if current evidence is insufficient. Offered Winter, Spring/Summer.

Prerequisite: NUR 7015 with a minimum grade of C

Restriction(s): Enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students.

NUR 7025 Community Based Participatory Research Cr. 3

Explores common issues and methods involved in conducting community based participatory research (CBPR). Students engage in building the necessary skills and learn how to collaborate across interdisciplinary perspectives to engage in research that leads to community change, the improvement of public health, and enhances the quality of life. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Adv Public Health Nurse; enrollment is limited to Graduate level students.

NUR 7030 Advanced Nursing Assessment Cr. 4

Development of advanced physical psychosocial assessment skills. Development of critical thinking skills in relation to differential diagnosis (medical and nursing) that are required in the performance of advanced nursing practice. Offered Spring/Summer.

Prerequisite: PTH 7500 with a minimum grade of C and NUR 7555 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$100

NUR 7035 Family Centered Health Promotion and Risk-reduction Cr. 3

The purpose of this course is to facilitate student's understanding and application of family systems approach to the theoretical foundation for health promotion and risk reduction across the lifespan. The emphasis is on family theory, health promotion theories and research to promote and preserve wellness lifestyles in client populations using epidemiological principles, disease risk appraisal and reduction and other tools. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7040 Comprehensive Community Assessment Cr. 5

Provides opportunities for students to develop knowledge and skills essential to conducting comprehensive community assessments. Students engage with interprofessional team members, community agencies, and diverse populations to conduct a comprehensive assessment. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Adv Public Health Nurse; enrollment is limited to Graduate level students.

NUR 7055 Health Promotion and Prevention with Diverse Populations Cr. 5

Focuses on the development of advanced public health nursing knowledge and collaborative practice skills essential to integrating theoretical frameworks, comprehensive community assessments, and diverse perspectives when designing and implementing health promotion and prevention programs. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7065 Program Planning, Quality Improvement and Evaluation Residency Cr. 5

Focuses on the development of knowledge, skills and leadership strategies essential for advanced public health nurses to transform complex systems, and to improve the health of communities and diverse populations. The course emphasizes the application of concepts and theories germane to planning, improving, and evaluating health programs to advance public health, and enhance quality of life. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7105 Theoretical Foundations for Nursing Cr. 3

Theory course: foundations for nurses in practice and leadership roles. Discussion of diverse perspectives that influence knowledge development in nursing, including, systems, communication, developmental, health promotion, stress and coping theories. Offered Every Term.

Restriction(s): Enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students.

NUR 7130 APN: Management of Oncology, Mental Health, and Lifestyle Change Cr. 6

Development of clinical expertise required to co-manage the care of persons with illness trajectories related to oncology, hematology, mental health and wound management. Offered Winter.

Prerequisite: NUR 7030 with a minimum grade of B and PTH 7500 with a minimum grade of B and NUR 7555 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7140 APN: Management of Cardiopulmonary and Renal Problems Cr. 6

Development of clinical nursing expertise required to co-manage the care of persons with illness trajectories related to pulmonary, cardiovascular and renal systems. Offered Winter.

Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7155 Primary Prevention Strategies Cr. 8

Synthesis of theoretical, scientific, and clinical knowledge to support health promotion, health protection, and disease prevention advanced practice in Adult-Gerontology Primary Care Nursing. Offered Fall.

Prerequisites: ((NUR 7030 with a minimum grade of C)) AND ((NUR 7555 with a minimum grade of C)) AND ((NUR 7890 with a minimum grade of C))

Restriction(s): Enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students.

NUR 7165 Clinical Decision Making in Adult-Gerontology Cr. 8

Critical thinking and analysis of managerial decisions in primary care of adults and older adults. Offered Winter.

Prerequisite: NUR 7155 with a minimum grade of B and PTH 7500 with a minimum grade of C and NUR 7555 with a minimum grade of C

Restriction(s): Enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students.

NUR 7175 Adult-Gerontology Primary Care Management and Evaluation Cr. 8

Synthesis of community-based adult-gerontology primary care nursing within the framework of evaluation. Offered Fall, Winter.

Prerequisite: NUR 7165 with a minimum grade of B and PTH 7500 with a minimum grade of C and NUR 7555 with a minimum grade of C

Restriction(s): Enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students.

NUR 7200 Advanced Neonatal Pharmacology Cr. 3

Basic concepts of pharmacology; application and integration of content to advanced practice nursing with high-risk neonate. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7203 Advanced Neonatal Physiology and Pathophysiology Cr. 3

Basic concepts of developmental physiology; application and integration of content into advanced practice nursing with the high-risk neonate. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Adv Prct Nur Wmn, Neonates&Chld or Neonatal Nurse Practitioner; enrollment limited to students in the MS in Nursing program; enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7207 Advanced Pediatric Pharmacology Cr. 3

Preparation of advanced practice nurses to apply concepts of pediatric pharmacology when assessing, managing and treating the pediatric patient in a variety of environments, including acute/critical and primary care. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7222 Leadership in Health Policy, Ethics and Change Cr. 3

Examines health systems and health policy within evolving sociopolitical contexts from a national and international perspective. Content includes human diversity, social issues, systems theory, health systems analysis, ethics, health policy analysis, and policy formulation. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7225 Pathophysiology, Clinical Care and Management I Cr. 8

Managing health care needs of women, neonates, and/or children; conceptual basis for advanced nursing. Offered Fall.

Prerequisite: NUR 2010 with a minimum grade of B and NUR 3400 with a minimum grade of B and NUR 7030 with a minimum grade of B

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7226 Pathophysiology, Clinical Care and Management II Cr. 8

Development and demonstration of a model of advanced practice nursing or nurse-midwifery. Offered Winter.

Prerequisite: NUR 7225 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7227 Pathophysiology, Clinical Care and Management III Cr. 8

Synthesis of advanced practice nursing or nurse-midwifery model for care of women, neonates, and/or children. Offered Spring/Summer.

Prerequisite: NUR 7226 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7370 APN: Management of Neurological, Endocrine, and Musculoskeletal Problems Cr. 6

Assisting advanced practice nurses in development of clinical expertise required to co-manage persons with problems related to neurology, endocrinology, and musculoskeletal disorders. Offered Winter.

Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7415 Physical and Psychosocial Issues in Aging Cr. 3

Analysis of predominant physical and psychosocial aspects of aging encountered by elderly clients. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7444 Advanced Physiology and Pathophysiology Across the Lifespan for APRNs Cr. 4

General physiology and pathologic principles for promoting health and treating disease across the lifespan. This course builds upon previous courses in anatomy and physiology and is a core competency that provides the basis for critical thinking in the role as an advanced practice nurse. Further, it provides an in-depth study of principles of advanced physiology and pathophysiology applicable across the lifespan, including enhancement of knowledge of human physiology of organ systems as well as the etiology, developmental considerations, pathogenesis, morphology, and clinical manifestations of common disease processes. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7515 End-of-Life Issues Cr. 3-4

Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANT 7430, SOC 7020

NUR 7555 Pharmacotherapeutics for Advanced Practice Cr. 3

General pharmacotherapy; critical evaluation of drug therapy; critique and prescription of appropriate therapeutic regimens. Offered Winter.

Prerequisites: ([NUR 2060 and PTH 7500])

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7605 Psychopharmacology for Advanced Practice Nursing Cr. 5

Focus on pharmacokinetics and pharmacodynamics of psychotropic and neurologic medications used across the life span. Emphasis on efficacy of the medications, individualized selections, and titration of dosages. Offered Fall.

Prerequisites: (May be taken concurrently: [NUR 7555 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7710 Theoretical Perspectives of Teaching in Nursing Cr. 3

Theories of learning and teaching, critical thinking, value development, and psychomotor skill development as basis for teaching in nursing. Teaching methods in nursing for classroom and clinical practice. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7720 Evaluation and Testing in Nursing Education Cr. 3

Development of educational program in nursing. Test construction, clinical and performance evaluation, and grading. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7730 Practice Teaching in Nursing Cr. 3

Application experience in educational setting appropriate to student's needs and goals. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7840 Advanced Practice Nursing with Individuals/Communities Cr. 6

Opportunities for psychiatric nursing and community health nursing advanced practice students to integrate content about individuals and communities within cultural contexts. Offered Fall.

Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7855 Advanced Practice Nursing with Groups Cr. 6

Opportunities for psychiatric nursing and community health nursing advanced practice students to integrate content about groups within cultural contexts. Offered Winter.

Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7860 Advanced Practice Nursing with Families Cr. 6

Opportunities for advanced practice psychiatric nursing and advanced practice community health nursing students to integrate content about families within cultural contexts. Offered Spring/Summer.

Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7865 Foundations of Complementary and Alternative Medicine (CAM) Cr. 3

Philosophical, historical, physiological basis of CAM; use in advanced practice nursing. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7870 Complementary Therapy Research: Understanding the Evidence Cr. 4

Focus on the research related to complementary therapies allowing students to explore what has already been established, limitations and benefits, and future directions and initiatives that are needed to support CAM therapies for integrative health care use. Offered Fall, Winter.

Prerequisite: NUR 7865 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7875 Complementary Alternative Medicine Therapies: Clinical Intervention II Cr. 5

Additional in-depth information on mind-body techniques, herbs/supplements, aromatherapy and energy healing; focus on physiological, psychological, and spiritual aspects of integrative care. Offered Fall, Winter.

Prerequisite: NUR 7870 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7880 Infant/Family Mental Health Assessment Cr. 2

Using a relationship-based model, assessments of infant and toddler socio-emotional development and parental health is emphasized. Interdisciplinary dialogue about the infant mental health perspective and the impact of culture. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7890 Special Topics in Nursing Cr. 1-8

Exploration and analysis of topics significant to the development of nursing science and professional practice. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 7990 Directed Study in Nursing Cr. 1-8

Individually designed courses of study in nursing. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 16 Credits

NUR 7998 Master's Research Project Cr. 1-3

Scientific investigation of nursing phenomena using all steps of the research process; includes written report. Offered Every Term.

Prerequisite: NUR 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8011 Scientific Writing in Nursing Cr. 1

Seminar to assist students in becoming more effective scientific writers in order to be successful nurse scholars and scientists. Students will conduct a mini-review of the literature related to a specific aspect of urban health. After identifying a precise statement to focus their review, students will synthesize the literature and write iterative drafts of their review. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the College of Nursing.

NUR 8012 Philosophical Basis of Nursing Cr. 3

Philosophical underpinnings of the nursing discipline in order to assist students in understanding the tripartite role of a Ph.D.-prepared nurse as scholar, scientist, and steward of the discipline. Students will explore the interaction of historical, theoretical, and philosophical contexts within which nursing science has developed, discuss the role each has played in the process of developing nursing as an academic research discipline, and examine these for congruence with contemporary thinking. Emphasis is on analyzing epistemological and ontological assumptions underlying the discipline, the science, and the practice of nursing. Debates arising from philosophy and the history of science and nursing inform discussions about the nature of science and nursing's past, present, and future directions in theory and knowledge development. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree; enrollment limited to students in the College of Nursing.

NUR 8014 Health Interventions Cr. 3

Evaluation of intervention research to create nursing knowledge to improve health outcomes for urban populations. Students will examine select intervention designs to evaluate the effectiveness of therapeutic interventions related to their phenomenon of interest. The course also addresses important considerations of measurement, feasibility, fidelity, and data safety monitoring plans when conducting intervention research. Ethical concerns related to intervention research are discussed. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8020 Theoretically-Based Nursing Inquiry Cr. 3

Synthesis and application of knowledge from theoretical and empirical literature to a phenomenon of interest. Assistance to students in translating philosophical and theoretical perspectives into research methodologies. Concept analysis and construction, theory development, and relationships among conceptual frameworks, theories, and empirical referents are critically analyzed. The course will enable students to develop or further explicate a theoretical framework to guide a study within an emerging program of research in urban health. Offered Spring/Summer.

Prerequisites: ([NUR 8012 and NUR 8040] OR [NUR 8060])

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8040 Quantitative Research Methods Cr. 3

Non-experimental and experimental designs used in health-care research. Students will examine common threats to study validity and discuss methods to address these threats. Students also will develop the methods section of a quantitative proposal that addresses a researchable problem in nursing and health care. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8050 Introduction to Advanced Quantitative Methods: Big Data and Mixed Methods Cr. 3

Introduces advanced quantitative methods that may be used in the students' future program of research. Students will explore the methods associated with triangulation of data (i.e. mixed methods) and big data science, and the course will address the epistemological underpinnings of these two methods. Students will examine key design, sampling, analysis and management techniques required for using mixed methods or large data sets. Emphasis will be on exploring pragmatic considerations that contribute to the efficacy of projects using these different methods. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Interdisciplinary or Nursing; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

NUR 8060 Qualitative Research Methods Cr. 3

Relevance of qualitative approaches to the advancement of knowledge and practice in nursing and healthcare. An overview of qualitative traditions will be covered. Sampling, measurement, data collection, data management, and analysis will be discussed relative to various qualitative approaches. Strategies to maintain data quality and integrity are also discussed. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8065 Health Economics and Policy Evaluation of Nursing Care for Vulnerable Populations Cr. 3

The intersection of vulnerable populations and their health care needs will be explored from a health economics and health policy approach. The course will promote discourse on the economic structure of the American health system as it relates to disparities. Further, it will explore the economic analytical evaluation of health care through current economic models of analysis for nursing care. Offered Spring/Summer.

Prerequisites: ((FPH 7240 with a minimum grade of C) AND ((NUR 8630 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8070 Advanced Qualitative Methods Cr. 3

Focuses on analysis and critique of various traditions within qualitative methods (phenomenology, grounded theory, case study) and an in-depth examination of various methodological approaches and technical skill related to participant recruitment, ethical issues, data collection, data management and analysis, and interpretation of for qualitative methods. Students must have a data set for analysis, even if they are in the process of collecting data or receive permission to use a faculty member's data set. Offered Winter.

Prerequisites: ((NUR 8060 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8210 Health Determinants & Disparities Cr. 3

Examination of multiple determinants of health and issues related to health disparities among vulnerable populations in urban environments.

Course content addresses biophysiological, genetic, behavioral, cultural, environmental (social and physical), economic, and health policy factors that affect health and contribute to health disparities.

It prepares students to generate questions of concern to health and health outcomes; and to collaborate in interdisciplinary research teams regarding determinants of health and health disparities. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8604 Health Analytics and Data Management Cr. 4

This course provides the student with a foundation to evaluate the psychometric properties of outcome measures; to evaluate group differences for clinical programs, quality/process improvement, or practice change projects; and to synthesize results across qualitative and quantitative studies. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8610 Statistical Analysis I Cr. 3

Application of selected univariate statistical procedures commonly used in nursing and health research. Topics will include descriptive and inferential statistics such as measures of central tendency and variability, sampling, estimation, hypothesis testing, analysis of variance, regression and correlation, analysis of covariance, analysis of frequency and nonparametric procedures. Emphasis is on the utilization and interpretation of basic univariate procedures applied in nursing and health research. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8612 Statistical Analysis II Cr. 3

Advanced multivariate statistical procedures. The course will cover a range of advanced quantitative techniques, such as discriminant analysis, logistic regression analysis: dichotomous response, logistic regression analysis: polytomous response, principle component analysis, factor analysis, cluster analysis and survival analysis. The course also addresses statistical analysis for advanced quantitative designs such as analysis of variance for some unbalanced designs, analysis of variance for some fixed-, random-, and mixed-effects models, nested or hierarchical designs, multivariate repeated-measures analysis of variance and power analysis and sample size determination. An introduction to psychometric theory for instrument development also will be addressed. Offered Winter.

Prerequisites: ((NUR 8610))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8615 Informatics Innovations in Nursing Cr. 3

Development of understanding of concepts in health care informatics relevant to the advanced practice nurse. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8620 Foundations of Nursing as a Discipline Cr. 3

Critical examination of factors that have contributed to the development of the discipline of nursing. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Nursing Practice program; enrollment is limited to Graduate level students.

NUR 8625 Evidence Based Nursing Practice: Theoretical and Methodological Issues Cr. 3

Scientific foundation for integration of evidence based knowledge into clinical practice. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8630 Conceptual Methodologies in Health Policy Leadership and Ethics Cr. 3

Basic understanding of health policy and ethical theories and practice, skills in policy development and analysis, joined with ethical analysis. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8635 Clinical Practice Outcomes: Evaluation and Benchmarking Methodologies Cr. 3

Foundational knowledge and skills necessary to measure clinical outcomes and quality in advanced clinical nursing practice. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8640 Health Information Technology Cr. 3

Current and future advances in health information technologies as they apply to hospital or community health systems. Offered Fall.

Prerequisite: NUR 8615 with a minimum grade of B-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8650 Advanced Professional Leadership Cr. 3

Preparation of advanced nurses and others to effectively transition into the role of leader and change agent. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8670 APN Specialty I: Foundations Cr. 3-4

Foundational knowledge and skills necessary to manage health care needs across the developmental spectrum, while providing the conceptual basis for advanced practice nursing (APN). Focus on refinement and further development of basic clinical diagnostic skills, including physical examination, diagnosis, management, interventions, and outcomes assessment. Offered Fall.

Prerequisites: ((NUR 7030 with a minimum grade of C) AND ((NUR 7555 with a minimum grade of C) AND ((PTH 6860 with a minimum grade of C) OR [NUR 7200 with a minimum grade of C) AND ((PTH 7500 with a minimum grade of C) OR [NUR 7205 with a minimum grade of C] OR [NUR 7203 with a minimum grade of C])

Corequisite: NUR 8675

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8675 APN Specialty Clinical I: Foundations Cr. 4-5

Clinical (lab) component focuses on the continued application of specialty knowledge foundational to advanced practice nursing or nurse-midwifery. Strengthening and further development of the nurse practitioner/nurse-midwifery management model, roles of advanced practice nurses, and interventions to promote and/or restore health within each specialty area. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8680 APN Specialty II: Intermediate Cr. 3-4

Specialty seminar focuses on strengthening and further development of the application of the specialty knowledge of acute care, children, community, neonates, primary care, psychiatric and women's health within a broad social context. Students manage the care of clients in their designated specialty area while assessing for deviations from normal which may result in collaboration or referral. Development of the advanced practice role, provision of a supportive clinical practice environment, and examination of factors that contribute to the vulnerability of clients across the lifespan. Offered Winter.

Prerequisites: ((NUR 8675 with a minimum grade of C))

Corequisite: NUR 8685

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8685 APN Specialty Clinical II: Intermediate Cr. 4-5

Clinical (lab) component focuses on the continued application of specialty knowledge foundational to advanced practice nursing. Strengthening and further development of the nurse practitioner/nurse-midwifery management model, roles of advanced practice nurses, and interventions to promote and/or restore health within each specialty area. Offered Winter.

Prerequisite: NUR 8670 with a minimum grade of C and NUR 8680 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8690 APN Specialty III: Advanced Cr. 2-4

Synthesis of an advanced practice nursing model for care across the developmental spectrum. Health promotion, development, and long-term care of vulnerable populations within a broad social context. Specialty seminar component focuses on strengthening and applying specialty knowledge of acute care, children, neonates, primary care, and women's health within a broad social context. Offered Winter.

Prerequisites: ((NUR 8680 with a minimum grade of C) AND ((NUR 8685 with a minimum grade of C))

Corequisite: NUR 8695

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8695 APN Specialty Clinical III: Advanced Cr. 4-6

Students are to concentrate with hands on patient care in the role of a provider. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8890 Special Topics in Nursing Cr. 1-8

Exploration and analysis of topics significant to the development of nursing science and professional practice at the doctoral level. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

NUR 8895 Population Health for Nursing Cr. 3

Introduction to the basic concepts of epidemiology as tools that will promote understanding of the complexity of local, national, and global healthcare systems. Emphasis is on the use of epidemiologic reasoning in deriving inferences about the etiology of health outcomes from population data and in guiding the design of health service programs. Discussion of behavioral and contextual factors that converge to impact the health of individuals, families, and communities in relationship to strategies that advanced practice nurses use to mitigate these factors. Students will be challenged to develop approaches for using epidemiology to influence, create, and lead change. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

NUR 8990 Directed Study Cr. 1-8

Individually designed courses in nursing for doctoral students whose needs and interests are not met in scheduled classes. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NUR 7010 with a minimum grade of C

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

NUR 9500 DNP Project Practicum I Cr. 2

Provides guided study to identify role components for the advanced practice nurse pursuing a Doctor of Nursing Practice (DNP) degree. The student will begin exploration and identification of a specific practice topic area for the DNP Project. The scholarly practicum gives the student hands on experience in her/his chosen area of clinical inquiry. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9505 DNP Project Practicum II Cr. 2

Requires the student to engage faculty, community and/or healthcare organization leaders for project proposal planning of an evidenced-based DNP Project based on the specific practice topic identified. The student must establish the state of the science upon which the DNP Project will be based. Offered Every Term.

Prerequisites: ((NUR 8625 with a minimum grade of C) AND ((NUR 9500 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9510 DNP Project Practicum III Cr. 2-4

Builds on the knowledge and skills developed in the previous courses: DNP Project Practicum I and II. Students, working with their DNP Project Chair and relevant leaders, will implement their projects. Offered Winter, Spring/Summer.

Prerequisites: ((NUR 9500 with a minimum grade of C) AND ((NUR 9505 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9520 Clinical Inquiry Project Cr. 4-6

Builds on the knowledge and skills developed in the previous courses: DNP Project Practicum I, II and III. Provides the doctorate nursing practice student with the opportunity to demonstrate their ability to analyze, synthesize and apply clinical inquiry knowledge and competencies through written and public presentation. Offered Every Term.

Prerequisites: ((NUR 9500 with a minimum grade of C)) AND ((NUR 9505 with a minimum grade of C)) AND ((NUR 9510 with a minimum grade of C))

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NUR 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NUR 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: NUR 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

OT - OCCUPATIONAL THERAPY

OT 3000 Introduction to Occupation, Health, and Wellness Cr. 3-4

Introduction to the processes and procedures utilized by the occupational therapist: observation, interview, communication and skills gained through interaction with normal individuals from infancy through senescence. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

OT 3070 Occupational Therapy Research I Cr. 3

Basic concepts and principles of research, terminology used to describe research, and effective use of research information for evidence-based practice in occupational therapy. Didactic and experiential components. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 3200 Therapeutic Media Cr. 2-3

Performance, adaptation and utilization of processes involved in selected creative and manual tasks and activities which have therapeutic value. Principles and methods of teaching appropriate to the therapist. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$25

OT 3300 Movement Assessment and Intervention Cr. 3

Lecture and laboratory on human movement concepts prerequisite to the understanding of occupational therapy procedures applicable to patients with physical or sensory-integrative dysfunction. Offered Fall.

Prerequisite: PHY 2130 with a minimum grade of C and OT 5200 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

OT 3400 Health Conditions I: Physical Disabilities Cr. 3-4

A series of interdisciplinary presentations on the clinical manifestations and management of selected problems due to disease states or injury; includes etiology, assessment, course and medical specialty management of the problems. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$5

OT 4050 Life Occupations I Cr. 3

Examination of areas of occupation: daily living activities, work/school, play, leisure and social participation. Tools and techniques for analysis of occupations; development of intervention strategies; effective documentation. First of two courses. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 4280 Occupational Therapy Assessments Cr. 5

Tools and techniques for conducting assessments; documenting, observing, and interviewing. Course format: didactic, case presentation, and experiential. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 4400 Health Conditions II: Mental Health Cr. 3-4

Major categories of psychiatric conditions, young adult through elderly. Diagnostic criteria; treatment strategies in hospital and community settings with fieldwork requirements. Guest lecturers from medical and community settings. Second of two courses. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

OT 4600 Group Dynamics Cr. 5

Experiential approach to learning group dynamics and achieving skills necessary for conducting effective therapeutic groups for a variety of settings. Development of self-awareness and social skills necessary in building practical group skills. Level I fieldwork. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

OT 4990 Directed Study Cr. 1-2

Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 5 Credits

OT 5000 Interventions and Outcomes I Cr. 5

Occupation-based therapeutic activities, intervention strategies, documentation skills, and discharge planning that promote client-centered outcomes; focus is on children, through the teen years. First of two courses. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$67

OT 5040 Environmental Influence on Disability and Health Cr. 3

Application of OT practice in health care delivery. Critical examination of physical, social, economic and political environments on the health, wellness, and disability of individuals, populations, and the health care delivery system. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5050 Life Occupations II Cr. 3

Role of leisure in health, wellness, prevention and rehabilitation; focus: across the life span. Explores and develops assessment tools, treatment plans for diverse populations; includes experiential learning. Second of two courses. Offered Fall.

Prerequisite: OT 4050

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

OT 5080 Occupational Sci Cr. 2

Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy; enrollment is limited to Undergraduate level students.

OT 5300 Surface Anatomy for Occupational Therapy Cr. 1

Students will: 1) practice and develop palpation skills, 2) locate bony landmarks, muscles, tendons, joints, ligaments, nerves, and arteries on the living human body, 3) appreciate differences of a variety of tissue types. Offered Fall.

Prerequisites: (May be taken concurrently: [OT 5505]) AND (May be taken concurrently: [OT 5510])

OT 5400 Neurosciences for Health Care Professionals Cr. 3

Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement.

Offered Winter.

Prerequisite: OT 5200

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

Equivalent: PT 5400

OT 5500 Aging:Community to Longtm Care Cr. 3

Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Occupational Therapy; enrollment is limited to Graduate or Undergraduate level students.

OT 5505 Clinical Applications of Human Anatomy Cr. 3

Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences.

Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy or Physical Therapy; enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: PT 5505

OT 5510 Clinical Applications of Human Anatomy: Laboratory Cr. 1-2

Examination of prosections, dissection of human cadavers; didactic study. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$200

Equivalent: PT 5510

OT 5650 Pathophysiology for Health Sciences Cr. 3

Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: PT 5650, RT 5650

OT 5993 Writing Intensive Seminar in Occupational Therapy Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with designated corequisite; consult Schedule of Classes for corequisites available each term. Satisfies University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Prerequisite: OT 3000 (may be taken concurrently) with a minimum grade of D-

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 6000 Interventions and Outcomes II Cr. 5

Occupation-based therapeutic activities, intervention strategies, documentation skills, and discharge planning that promote client-centered outcome; focus is on young adult, adult years, life span. Second of two courses. Offered Winter.

Prerequisite: OT 5000

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6070 Occupational Therapy Research II Cr. 3

Application of research principles and methods to solving occupational therapy problems. Offered Fall.

Prerequisite: OT 3070

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

OT 6090 Directed Research Cr. 1-4

Opportunity to conduct supervised research and to participate in research activities of a mentor. Offered Every Term.

Prerequisite: OT 6070

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 8 Credits

OT 6230 Motor Control Cr. 3

Current theories of motor control and motor learning; recovery of function and normal movement across the lifespan. Offered Winter.

Prerequisite: OT 5200 with a minimum grade of C- and OT 5400 with a minimum grade of C- and OT 7300 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6320 Patient Perspectives of Health, Illness and Culture Cr. 2

People from various cultures (religious, ethnic, sexual orientation, disability, chronic illness, economic status) discuss in small groups how these cultures influence living with a chronic illness. Students also discuss readings on health culture and keep a journal on their course experience. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: PPR 6300

OT 7120 Topics in Assistive Technology Cr. 3

Theories of assistive technology; their application in health care and community settings. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7200 Occupational Therapy Practice in Aging Cr. 3

Covers the concepts and the process of aging and the role of occupational therapy with adults impacted by changing physical health and cognitive capacities and environments. Focuses on the effects of major late life transitions including, for example, retirement from paid employment, driving cessation, household downsizing and caregiving. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7300 Professional Lit Cr. 3

Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7500 Specialist Roles in Occupational Therapy Cr. 3

Issues of the occupational therapy specialist. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 9 Credits

OT 7700 Research Dissemination Cr. 3

Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7750 Professional Field Experience Cr. 1-4

Supervised placement in area of specialization. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7800 Occupational Therapy Capstone. Cr. 3

Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Occupational Therapy; enrollment is limited to Graduate level students.

OT 7898 Level II Fieldwork A: Medical Cr. 8

Supervised field work experience in affiliated health care agencies.
Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students;
enrollment limited to students in the Pharmacy and Health Sciences.

OT 7899 Level II Fieldwork B: Community Cr. 8

Supervised field work experience in affiliated health care agencies.
Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students;
enrollment limited to students in the Pharmacy and Health Sciences.

OT 7990 Directed Study Cr. 1-3

Opportunities for study and experience in areas of special interest in
occupational therapy. Written report and oral presentation required.
Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students;
enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 5 Credits

OT 7999 Masters Essay Dir Cr. 1-2

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate
Masters; enrollment is limited to Graduate level students; enrollment
limited to students in the Pharmacy and Health Sciences.

OT 8990 Masters Project Dir Cr. 1-5

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students;
enrollment limited to students in the Pharmacy and Health Sciences.

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

Offered Every Term.

Prerequisite: OT 7700

Restriction(s): Enrollment limited to students with a class of Candidate
Masters; enrollment is limited to Graduate level students; enrollment
limited to students in the Pharmacy and Health Sciences.

Repeatable for 8 Credits

PAA - PATHOLOGISTS' ASSISTANT

PAA 5020 Applied General Pathology Cr. 3

Fundamental principles and theories applied to general pathology with special emphasis on disease processes and mechanisms found in adult and pediatric pathology. Offered Fall.

Corequisite: PAA 7250

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 5050 Clinical Terminology and Methodology for the Pathologists' Assistant Cr. 3

Clinical and medical terminology specific to the pathologists' assistant along with associated methodologies used in surgical and autopsy pathology in the second year of the program. Introduction to laboratory human organ system grossing methodologies. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

Course Material Fees: \$250

PAA 5100 Medical Photography and Techniques in Pathology Cr. 2

Theory of the behavior of light and selection of appropriate lenses; principles of exposure, color, and filters; macro- and microphotography. Adjustment of clinical photographs and student photographs corrected by Adobe Photoshop Professional resulting in a student Eportfolio. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

Course Material Fees: \$100

PAA 5200 Medical Microbiology for Technical Professionals: Pathologists' Assistant Cr. 3

Infectious diseases affecting major organ systems of the body encountered by the pathologists' assistant. Clinical case study analysis with student presentations. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 6061 Human Embryology and Pediatric Pathology Cr. 3

Embryological basis of pediatric and childhood diseases along with adult presentations. Human embryological correlations to clinical settings: case study analysis specific to the pathologists' assistant and clinical evaluation of pediatric pathology. Recognition of anatomical presentations with embryological development in normal and diseased states. Offered Winter.

Prerequisites: ([PAA 7060])

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 6150 Histochemistry for the Pathologists' Assistant Cr. 4

Study of techniques specific to the Pathologists' Assistant involved in the preparation of tissues prior to microscopic examination and processing inclusive of embedding, sectioning, preparing frozen sections and performing routine and special stain on a variety of tissues. Offered Spring/Summer.

Prerequisites: ([PAA 6560])

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

Course Material Fees: \$200

PAA 6420 Laboratory Management and Quality Management in Anatomic Pathology Cr. 3

Interpersonal and technical management techniques for the clinical and anatomic pathology laboratory settings. Quality management techniques, policies, protocols and best practices for the pathologists' assistant. Safety mandates and protocols as applied to anatomic and surgical pathology. Discussion and analysis of governmental mandates covering laboratory improvement (CLIA). Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 6560 Human Histology and Clinical Correlations Cr. 4

Characteristics and identification of human tissue microanatomy. Functional interpretation of human microstructure. Examine and study prepared, strained tissue sections from a variety of organ sections both normal and abnormal allowing for clinical correlations in patient case presentations. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

Course Material Fees: \$100

PAA 7060 Human Anatomy and Physiology for Pathologists' Assistants Cr. 4

Detailed comprehensive review of human anatomy and physiology as it pertains to the pathologists' assistant practice. Laboratory is innovative and includes zones of learning associated with high definition models, virtual reality software and prosected human specimen and organ blocks. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

Course Material Fees: \$350

PAA 7200 Introduction to Autopsy Techniques Cr. 4

Comprehensive review of general and specialized techniques for performing postmortem examinations in both the hospital and medical examiner settings, with emphasis on the external examination, evisceration, and block dissection of the adult, perinatal, and pediatric decedent. The laboratory component of this course will focus on developing evisceration techniques on cadavers, and address pertinent medical findings while applying thorough block dissection skills. Offered Spring/Summer.

Prerequisites: ([PAA 7060])

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

Course Material Fees: \$300

PAA 7250 Clinical Academic Pathology I Cr. 3

Systemic pathologies affecting the following organ and organ systems: white blood cells, lymph nodes, spleen and thymus, red blood cells and bleeding disorders, peripheral nerve and skeletal muscles, CNS, the skin, and the bones, joints and soft tissue tumors. Concepts of molecular diagnostics are integrated when appropriate. Offered Fall.

Corequisite: PAA 5020

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7251 Clinical Academic Pathology II Cr. 3

Continuation of PAA 5020 and PAA 7250. Systemic pathologies affecting the following organ and organ systems: the blood vessels and heart, the lung, head, and neck, the gastrointestinal tract, liver and gallbladder, and the eye. Concepts of molecular diagnostics are integrated when appropriate. Offered Winter.

Prerequisites: ([PAA 5020]) AND ([PAA 7250])

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7252 Clinical Academic Pathology III Cr. 3

Continuation PAA 7250 and 7251. Systemic pathologies affecting the following organ and organ systems: the kidney, the lower urinary tract and male genital system, the female genital tract, the breast, the endocrine system and the pancreas. Concepts of molecular diagnostics are integrated when appropriate. Offered Spring/Summer.

Prerequisites: ([PAA 5020]) AND ([PAA 7250]) AND ([PAA 7251])

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7420 Future Trends in Pathology Practice and Education Methodology Cr. 2

Group discussion of trends associated with healthcare, patient care, technology, legal issues, education methodology, licensure and accreditation issues; medical ethics, safety, medicolegal, and quality management in anatomic, surgical and autopsy pathology are covered. Presentations lead to recommendations for future best practices in a variety of pathology settings. Students present research findings via PowerPoint and in a seminar format. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7500 Clinical Autopsy Pathology Cr. 2

Clinical autopsy procedures, including data retention, dissection techniques, selection of tissue for microscopic examination, and methods of body restoration prior to release in clinical facilities. Course addresses NAACLS competency levels for medical autopsy techniques (adult) and medical autopsy techniques (pediatric). Offered Fall.

Prerequisite: PAA 7060 with a minimum grade of C and PAA 7061 with a minimum grade of C and PAA 7200 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

Course Material Fees: \$100

PAA 7550 Clinical Histopathologic Technique Cr. 3

Organization of a histology laboratory, instrumentation and safety; advanced staining techniques including immunohistochemistry; frozen sections, tumor triage and proper handling of specimens for processing and assessment of clinical cases. Offered Fall.

Prerequisite: PAA 6560 with a minimum grade of C and PAA 6150 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

Course Material Fees: \$100

PAA 7600 Clinical Pediatric Pathology Cr. 1

Embryological basis of pediatric and childhood diseases along with adult presentations. Human embryological correlations to clinical settings: case study analysis specific to the pathologists' assistant; clinical evaluation of pediatric pathology. Recognition of anatomical presentations with embryological development in normal and diseased states. Offered Fall.

Prerequisite: PAA 5050 with a minimum grade of C and PAA 6061 with a minimum grade of C and PAA 7060 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7650 Surgical Pathology I Cr. 3

Application of principles, theories, and clinical practices related to grossing (simple) surgical dissections. Addresses NAACLS competency levels associated with adult and pediatric surgical pathology techniques. Offered Fall.

Prerequisite: PAA 5050 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C and PAA 7252 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7651 Surgical Pathology II Cr. 3

Application of principles, theories, and clinical practices related to gross (simple and complex) surgical dissections. Addresses NAACLS competency levels associated with adult and pediatric surgical pathology techniques. Offered Winter.

Prerequisite: PAA 5050 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C and PAA 7252 with a minimum grade of C and PAA 7650 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7652 Surgical Pathology III Cr. 3

Application of principles, theories, and clinical practices related to gross (simple and complex) surgical dissections. Addresses NAACLS competency levels associated with adult and pediatric surgical pathology techniques. Offered Spring/Summer.

Prerequisite: PAA 5050 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C and PAA 7650 with a minimum grade of C and PAA 7651 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7700 Forensic Pathology and Techniques Cr. 4

Forensic autopsy techniques specific to the Pathologists' Assistant and compliant with NAACLS competency levels associated with adult and pediatric cases; forensic toxicology specimen collection and processing; forensic techniques associated with determining cause manner and mechanism of death; techniques of photographic record keeping and body release. Offered Winter.

Prerequisite: PAA 7060 with a minimum grade of C and PAA 7061 with a minimum grade of C and PAA 7201 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAA 7750 Clinical Laboratory Management in Anatomic Pathology Cr. 2

The clinical application of interpersonal and technical management techniques for the clinical and anatomic pathology laboratory settings. Quality management techniques, policies, protocols and best practices for the pathologists' assistant. Safety mandates and protocols as applied to anatomic and surgical pathology. Discussion and analysis of governmental mandates covering laboratory improvement (CLIA). Offered Winter.

Prerequisite: PAA 6420 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PAA 7800 Clinical and Forensic Photography Cr. 3

Techniques required to photographically record gross and microscopic specimens as presented from surgery and in surgical grossing, as well as from the forensic setting resulting in a PA student E-portfolio. Offered Spring/Summer.

Prerequisite: PAA 5100 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

Course Material Fees: \$100

PAA 7890 Seminar in Anatomic and Surgical Pathology Cr. 2

Clinically based capstone seminar course. Invited clinical specialists in anatomic and surgical pathology address contemporary issues in pathology allowing dialogue between pathologists' assistant students and pathologists. Offered Spring/Summer.

Prerequisite: PAA 7650 with a minimum grade of C and PAA 7651 with a minimum grade of C

Corequisite: PAA 7652

Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program; enrollment is limited to Graduate level students.

PAS - PHYSICIAN ASSISTANT STUDIES

PAS 7000 Anatomy for Physician Assistants I Cr. 2

Structural and functional anatomy of the human body relevant to physician assistant responsibilities. All major regions of body will be studied. Regional dissections; programmed instruction; lectures and demonstrations with emphasis on use of gross anatomy in physical diagnosis. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$250

PAS 7001 Anatomy for Physician Assistants II Cr. 1

Continuation of PAS 7000. Structural and functional anatomy of the human body relevant to physician assistant responsibilities. All major regions of body will be studied. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PAS 7010 Clinical Medicine I Cr. 3

Introduction to etiology, manifestation, diagnosis, prevention and treatment of disease; includes: all major organ systems and disease entities. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 7020 Clinical Medicine II Cr. 3

Continuation of PAS 7010. Offered Yearly.

Prerequisite: PAS 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 7030 Clinical Medicine III Cr. 4

Continuation of PAS 7020. Offered Yearly.

Prerequisite: PAS 7020 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 7040 Patient Evaluation I Cr. 2

The elicitation and recording of complete medical history, including a complete and comprehensive physical examination. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$324

PAS 7050 Patient Evaluation II Cr. 2

Continuation of PAS 7040. Offered Yearly.

Prerequisite: PAS 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$222

PAS 7060 Patient Evaluation III Cr. 3

Continuation of PAS 7050. Offered Yearly.

Prerequisite: PAS 7050 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$383

PAS 7070 Health Care Issues I Cr. 1

Specialized topics in the care of patients, medical research, as well as issues concerning the delivery of health care to the public. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$25

PAS 7080 Health Care Issues II Cr. 1

Continuation of PAS 7070. Offered Yearly.

Prerequisite: PAS 7070 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$25

PAS 7090 Health Care Issues III Cr. 1

Continuation of PAS 7080. Offered Yearly.

Prerequisite: PAS 7080 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$25

PAS 7100 Pharmacology I Cr. 2

Principles of pharmacologic action followed by review of major therapeutic agents in each clinical area. Major systems of the body as related to drugs and diseases. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

PAS 7110 Pharmacology II Cr. 2

Continuation of PAS 7100, Offered Yearly.

Prerequisite: PAS 7100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 7500 Pathophysiology I Cr. 1

Dynamics of alterations in function in response to disease. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PAS 7510 Pathophysiology II Cr. 1

Continuation of PAS 7500. Offered Yearly.

Prerequisite: PAS 7500 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PAS 7520 Pathophysiology III Cr. 1

Continuation of PAS 7510. Offered Winter.

Prerequisite: PAS 7510 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Physician Assistant Studies; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PAS 8000 Internal Medicine Rotation: Practicum Cr. 4

Advanced training in internal medicine with particular emphasis on both inpatient and outpatient primary care. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$393

PAS 8010 Obstetrics and Gynecology Rotation: Practicum Cr. 2

Advanced training in the problems associated with gestation, birth, and women's health. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 8020 Emergency Medicine Rotation: Practicum Cr. 2

Advanced training in all aspects of the practice of urgent and emergency medicine. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PAS 8030 Pediatrics Rotation: Practicum Cr. 2

Advanced training in the care of children from birth through adolescence. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 8040 Psychiatry Rotation: Practicum Cr. 2

Advanced training in the care of patients with psychiatric disorders. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PAS 8050 Surgery Rotation: Practicum Cr. 4

Examination of patients with surgical disorders, arrangement and participation in selected surgical procedures and recommendations for further evaluation and care. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$40

PAS 8060 Family Medicine Rotation: Practicum Cr. 6

Advanced training in outpatient evaluation of pediatric and adult patients with emphasis on family health, lifespan, and coordination of the health care team. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$60

PAS 8070 Preceptorship Cr. 2

Rotation specialized to the primary care needs of individual physician assistant students in last phase of clinical training. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$189

PCS - PEACE AND CONFLICT STUDIES

PCS 2000 Introduction to Peace and Conflict Studies Cr. 3

Open to all undergraduate students. Introduction to the peace and conflict studies field and co-major. Survey, ranging from biology and conflict among animals to disputes involving the individual, the family, region, nation and global or international community. Definitions and approaches to peace. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.

Equivalent: HIS 2500, PS 2820

PCS 2010 Topics in Peace and Conflict Studies Cr. 1-4

Special topics on issues relating to peace and conflict studies. Offered Every Term.

Equivalent: HIS 2520, PS 2830

Repeatable for 12 Credits

PCS 2020 Science, Technology, and War Cr. 4

Modern weapons, nuclear and conventional are becoming increasingly available and dangerous. Science and technology, as well as factors of government and society, underpin arms development and use. History of humanity and its tools of war and violence. Offered Yearly.

Equivalent: HIS 2510, PHY 2020, PS 2440

PCS 2050 The Study of Non-Violence Cr. 3

Intellectual and social roots of non-violence and the practice of non-violence in various societies and people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.

Equivalent: HIS 2530, PS 2550, SOC 2050

PCS 5000 Dispute Resolution Cr. 3

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation practices and theory. Offered Every Term.

Equivalent: CRJ 5994, PS 5890, PSY 5710

PCS 5010 Community or International Internship Cr. 3

Internship in dispute resolution, research, social service or international agencies in Detroit area, nationally, or abroad. Offered Every Term.

Prerequisites: ([PCS 2000 with a minimum grade of D-])

PCS 5100 Advanced Special Topics Cr. 3-4

Topics may include: study of negotiating organizations and processes, advanced theory to practice applications, in-depth specialization. Offered for undergraduate credit only. Offered Irregularly.

PCS 5500 Ethnicity Cr. 4

Offered Yearly.

Equivalent: AFS 5740, PS 5740

PCS 5999 Special Readings/Research Cr. 1-4

Intensive study with faculty member on peace-related topic; may include study abroad projects. For co-majors and non-majors. Offered Every Term.

PCS 6000 Senior Seminar in Peace and Conflict Studies Cr. 3

Students work with faculty on a semester research or creative project relevant to concepts studied in the program; serves as capstone program evaluative course. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to Undergraduate level students.

PCS 6050 Topics in Peace, Security and Non-Violence Cr. 3

Various graduate-level topics in Peace and Security Studies. Offered for graduate credit only. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

PCS 6100 Introduction to Graduate Peace and Security Studies Cr. 3

Survey of the peace and security studies fields at the graduate level.

Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PS 6100

PCS 7100 Peace Making: Regional, Technological, Transnational Perspectives Cr. 3

The prerequisites for peaceful and secure borders and peace settlements. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

PCS 7800 Graduate Practicum in Peace and Security Studies Cr. 3-4

Field work or applied research in Peace and Security Studies. Offered Every Term.

Prerequisite: PCS 6100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PED - PEDIATRICS

PED 7120 Advanced Quantitative Research Methods Cr. 3

Introduction to bivariate analysis and essential multivariate analysis as well as data entry and manipulation. Offered Yearly.

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 7130 Advanced Research Methods I: Assessment, Measurement, and Descriptive Epidemiological Designs Cr. 3

Concepts, principles, methods and practices in health behavioral research, with emphasis on measurement, research design, and basic analytical skills. Offered Yearly.

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 7140 Advanced Research Methods II: Intervention Study Design and Evaluation Cr. 3

Methodology for design and evaluation of behavioral intervention programs. Offered Yearly.

Prerequisite: PED 7130 and PED 7120

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 7160 Advanced Qualitative Research Methods Cr. 3

Use of qualitative and mixed methods in relation to current and emerging global public health issues; how qualitative methods contribute to the development and implementation of interventions.

Restriction(s): Enrollment is limited to Graduate level students.

PED 7210 Foundations of Health Behavior and Health Education I Cr. 3

Introduction to health behavior and health education using social ecological theories. Offered Yearly.

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 7220 Foundations of Health Behavior and Health Education II Cr. 3

Advanced examination of health behavior theories, including in-depth analyses of health behavior theories and their application. Offered Yearly.

Prerequisite: PED 7210

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 7230 Adolescent Health and Development Cr. 3

Exploration of a variety of aspects of adolescent development and adolescent health behaviors/risk behaviors. Offered Yearly.

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 8210 Planning and Funding Research in Health Behavior and Health Education Cr. 3

Introduction to the process of developing and submitting a research proposal. Offered Yearly.

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 8240 Disseminating Research Findings to Multiple Audiences Cr. 3

Introduction to the research dissemination process, including formats and venues for the dissemination of research findings and the tailoring of research findings to different audiences. Offered Yearly.

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 8320 Intervention Development and Design Cr. 3

Introduction to the process of designing and testing effective clinical health interventions. Offered Yearly.

Prerequisite: PED 7130

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PED 8330 Implementation Science Cr. 3

Theoretical frameworks and methodologies in implementation science, including effectiveness, efficiency, and fidelity of health program implementation. Offered Yearly.

Prerequisite: PED 8320

Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine.

PH - PUBLIC HEALTH

PH 2100 Introduction to Public Health Cr. 3

Provides both an overview of the principles and practice of public health and basic information needed to understand and analyze a variety of individual-level and population-level health problems. This course is intended for students with no previous course work in public health. Offered Every Term.

PH 3100 Social and Behavioral Aspects of Public Health Cr. 3

Examines the social and behavioral aspects of health, illness, and health care, and help students develop a basic understanding of the societal factors that influence health status and public health interventions. Offered Winter.

PH 3200 Introduction to Biostatistics Cr. 4

Provides an introduction to statistical methods used in biological and medical research and covers elementary probability theory, basic concepts of statistical inference, sampling theory, regression and correlation methods, analysis of variance, and study design. In addition, the course will examine statistical applications in biomedicine, epidemiology, public health and the life sciences. Offered Winter.

Prerequisites: ([MAT 1800 with a minimum grade of C] OR [STA 1020 with a minimum grade of C] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 30000-39999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 30000-39999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 30000-39999])

PH 3300 Epidemiology Cr. 4

Introduces the basic concepts of epidemiology as applied to public health problems. Emphasis is placed on the principles and methods of epidemiologic investigation, including the appropriate summaries, displays, and analysis of data, and the use of classical statistical and other methodological approaches to describe the health of populations. Offered Fall.

PH 3410 Global Health Cr. 3

Introduces students to problems of disease and disorder worldwide and looks at various efforts to define and address these problems through a social science perspective. Offered Biannually.

Equivalent: ANT 3410, GLS 3410

PH 3600 Special Topics in Public Health Cr. 3

Topics may include but are not limited to an examination of health in families, health in the workplace, health across the life course, health of urban communities, community health interventions, access to health care, and health services administration. Offered Fall, Winter.

Repeatable for 6 Credits

PH 4100 Public Health Principles and Practice Cr. 2

This required course examines practice-based approaches to improve public health. The focus will be on learning methods for community health improvement, from assessment to finding and implementing evidence-based public health interventions. Offered Fall, Winter.

Prerequisites: ([PH 2100 with a minimum grade of C]) AND ([PH 3300 with a minimum grade of C])

Corequisite: PH 4150

Restriction(s): Enrollment is limited to students with a major in Public Health or Public Health Honors.

PH 4150 Public Health Practicum Cr. 2

This required course is a practice-based experience that provides a hands-on, diverse approach to learning about public health practice. Students will complete a 90-hour practicum experience in a local community organization or other public health setting. Offered Fall, Winter.

Prerequisites: ([PH 2100 with a minimum grade of C]) AND ([PH 3300 with a minimum grade of C])

Corequisite: PH 4100

Restriction(s): Enrollment is limited to students with a major in Public Health or Public Health Honors.

PH 4300 Environmental Health Cr. 3

Using a public health perspective, the course will provide students with an overview of the key areas of environmental health, and it will cover factors associated with the development of environmental health problems. Students will gain a system-level understanding of the interaction of individuals and communities with the environment, the potential impact of environmental agents on population, and specific applications of public health concepts to environmental health. Offered Fall, Winter.

Prerequisite: PH 2100 with a minimum grade of C

PH 4400 Methodological Approaches in Public Health Cr. 4

This course provides students with a review of methodological approaches in public health. Students will analyze the benefits and costs of each methodological approach, and how to best apply each method in real-world settings. Students will also critically assess scientific literature in core areas of public health. The content and assignments for this course are designed to prepare students for the Capstone Course (PH 5100). Offered Fall, Winter.

Prerequisites: ([PH 2100 with a minimum grade of C]) AND ([PH 3300 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Public Health or Public Health Honors.

PH 4600 Special Topics in Health Disparities Cr. 3

Topics may include but are not limited to an examination of health disparities by race or ethnicity, gender, income, age, nationality, or residential location. Offered Fall, Winter.

Repeatable for 6 Credits

PH 4900 Directed Study in Public Health Cr. 1-3

Course requirements include directed readings and participation in public health research, under the direct supervision of a faculty member affiliated with the Bachelors in Public Health program. Offered Every Term.

Repeatable for 3 Credits

PH 5100 Capstone Course in Public Health Cr. 4

This capstone course provides the culminating curricular experience for students enrolled in Wayne State's Bachelor's program in Public Health. A major part of the final course grade is based on the student's completion of an individualized capstone project. Offered Winter.

Prerequisites: ([PH 2100 with a minimum grade of D-]) AND ([PH 3200 with a minimum grade of D-]) AND ([PH 3300 with a minimum grade of D-]) AND ([PH 4100 with a minimum grade of D-]) AND ([PH 4400 with a minimum grade of D-])

PHA - PHARMACY

PHA 3030 Pharmacy Calculations and Descriptive Biostatistics Cr. 1

Basics of pharmacy weights and measures; conversions between English, metric, and avoirdupois systems. Basic concepts in biostatistics: means, medians, modes. Offered Fall.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 4105 Pathophysiology 1 Cr. 3

Advanced pathophysiologic concepts affecting the adult human using a research-based, system-focused approach, including etiology, pathogenesis and clinical manifestations of commonly found/seen altered health states. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 4125 Drug Literature Evaluation and Foundations of Research Cr. 3

Critical evaluation of the medical literature and provision of foundational research skills. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 4205 Pathophysiology II Cr. 2

Advanced pathophysiologic concepts affecting the adult human using a research-based, system-focused approach, including etiology, pathogenesis and clinical manifestations of commonly found/seen altered health states. Offered Winter.

Prerequisite: PHA 4105

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 4225 Principles of Pharmacotherapy I: Respiratory, Gastroenterology, Allergy, Ophthalmology Cr. 4

Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of gastroenterologic, pulmonary, ophthalmologic, and allergic disorders, and basic self-care. Offered Winter.

Prerequisite: PHA 4105

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$70

PHA 4235 Pharmacotherapeutic Problem Solving I: Respiratory, Gastroenterology, Allergy, Ophthalmology Cr. 2

Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of respiratory, gastroenterologic, allergic, and ophthalmologic disorders, and basic self-care. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$75

PHA 4395 Research Scholars: Research Development Cr. 2

Development of basic foundations of research practices for students pursuing the Research Scholars path. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5110 Pharmacogenomics Cr. 2

Principles and applications of human genetics and genomics in drug therapy optimization, patient care, and counseling. Offered Spring/Summer.

Restriction(s): Enrollment limited to students with a class of PharmD Yr 2 or PharmD Yr 3; enrollment is limited to Professional level students.

PHA 5115 Principles of Pharmacotherapy II: Cardiology, Nephrology Cr. 5

Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of cardiovascular and renal disease. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5125 Principles of Pharmacotherapy III: Endocrinology, Gynecology, Urology Cr. 4

Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of endocrinologic, gynecologic, and urologic disorders. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5135 Pharmacotherapeutic Problem Solving II :Nephrology, Cardiology, Endocrinology, Gynecology, Urology Cr. 2

Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of nephrologic, cardiologic, endocrinologic, and gynecologic conditions.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5195 Research Scholars: Research Conduct Elective Cr. 1-4

Conducting research project for students pursuing the Research Scholars path. Offered Every Term.

Prerequisites: ([PHA 4395])

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Repeatable for 4 Credits

PHA 5215 Principles of Pharmacotherapy IV: Infectious Diseases Cr. 4

The chemistry, pharmacology, and toxicology of anti-infective agents and the pathophysiology, microbiology, and therapeutics of infectious diseases. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5225 Principles of Pharmacotherapy V: Neurology, Psychiatry Cr. 4

Medicinal chemistry, pharmacology and therapeutics of neurologic and psychiatric disorders. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5235 Pharmacotherapeutic Problem Solving III: Infectious Diseases, Neurology, Psychiatry Cr. 2

Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of infectious, neurologic, and psychiatric diseases. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$75

PHA 5280 Principles of Pharmacotherapy VIII Cr. 2-3

Pharmacotherapeutic principles of special populations, men's and women's health, patient problem solving. Offered Winter.

Corequisite: PHA 5275

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 6125 Principles of Pharmacotherapy VI: Oncology, Advanced Immunology Cr. 3

Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of oncologic and immunologic disorders Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 6135 Pharmacotherapeutic Problem Solving IV: Oncology and Advanced Pharmacotherapeutics Cr. 3

Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of neoplastic disorders and advanced pharmacotherapeutics. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 6235 Pharmacotherapeutic Problem Solving V: Drug Induced Diseases Cr. 2

Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry, and pharmacotherapeutics of drug-induced diseases. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$348.67

Repeatable for 998.99 Credits

PHC - PHARMACOLOGY

PHC 5030 Individual Research in Pharmacology Cr. 2-5

Direct participation in laboratory research into the ways drugs affect cell processes, under the supervision of a departmental faculty advisor. Introduction to experimental protocol and current related scientific literature. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

PHC 6500 Drugs and the Addictive Process Cr. 3

Introduction to general principles of drug action; specific pharmacologic, toxicologic, and pathologic effects of abused drugs; bio-psycho-social bases for addiction. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PHC 7010 Pharmacology Lecture Cr. 4

Introductory presentation of drug actions on living tissue. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

PHC 7220 Molecular Biology of Cancer Development Cr. 3

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. Offered Biannually (Fall).

Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CB 7220

PHC 7240 Principles of Cancer Chemotherapy Cr. 2

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. Offered Yearly.

Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CB 7240

PHC 7410 Principles of Toxicology Cr. 3

Basic concepts and principles of toxicology, including toxicity of major classes of chemicals (pesticides, solvents, metals) and organ systems (renal, immune, digestive, neuro and respiratory) affected. Offered Fall.

Prerequisite: CHM 2220 with a minimum grade of C- and CHM 2230 with a minimum grade of C- and BIO 1510 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BIO 7011

PHC 7505 Cellular Electrophysiology of CNS Neurons Cr. 3

Molecular mechanisms underlying electrical activity of CNS neurons. Lectures and student presentations: one hour lecture followed by two hours of student-led discussion. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate, Medical or Professional level students.

PHC 7650 Advanced Topics in Pharmacology Cr. 1-6

Modules of instruction in sharply-defined areas of current research in pharmacology and related disciplines. Each module will cover fundamental concepts, essential knowledge base, research protocols and techniques, and future issues. Offered Every Term.

Prerequisite: PHC 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

PHC 7700 Recent Developments in Pharmacology Cr. 1-4

Selected topics and readings in pharmacology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

PHC 7710 Individual Studies in Pharmacology Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Pharmacology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

Repeatable for 8 Credits

PHC 7890 Seminar Cr. 1

Assigned readings and student presentation; faculty and outside speakers. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Pharmacology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

Repeatable for 12 Credits

PHC 7996 Research Cr. 1-20

Special research topics in specified areas arranged with individual faculty members. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 30 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHC 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHC 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHC 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHC 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

PHI - PHILOSOPHY

PHI 1010 Introduction to Philosophy Cr. 4

Survey of some major questions that have occupied philosophers throughout history, such as Does God exist? What is a good person? Do we have free will? Is the mind the same as the brain? What can we really know? Course will acquaint students with major figures both historical and contemporary. Offered Every Term.

PHI 1020 Honors Introduction to Philosophy Cr. 3-4

Survey of some major questions that have occupied philosophers throughout history, such as Does God exist? What is a good person? Do we have free will? What can we really know? Course will acquaint students with major figures both historical and contemporary. Offered Irregularly.

PHI 1050 Critical Thinking Cr. 3

Knowledge and skills relevant to the critical evaluation of claims and arguments. Topics will include: the formulation and identification of deductively and inductively warranted conclusions from available evidence; the assessment of the strengths of arguments; the assessment of consistency, inconsistency, implications, and equivalence among statements; the identification of fallacious patterns of inference; and the recognition of explanatory relations among statements. Offered Every Term.

PHI 1100 Contemporary Moral Issues Cr. 3

Critical discussion of contemporary moral issues including pornography, adultery, same-sex marriage, abortion, preferential treatment, obligations to the poor, capital punishment, terrorism, and others. Offered Yearly.

Repeatable for 9 Credits

PHI 1110 Ethical Issues in Health Care Cr. 3

Survey of moral issues that arise in the practice of medicine and in pursuit of medical knowledge: abortion, euthanasia, experimentation on human subjects, informed consent, rights to health care, genetic engineering, the concepts of death, health and disease. Offered Yearly.

PHI 1120 Professional Ethics Cr. 3

Critical examination of moral issues in the workplace, including: discrimination and preferential treatment, sexual harassment, whistleblowing, privacy and disclosure, corporate social responsibility. No credit after PHI 1110. Offered Yearly.

PHI 1130 Environmental Ethics Cr. 3

Is the natural world something to be valued in itself, or is its value exhausted by the uses human beings derive from it? This course introduces students to some of the major views on the subject, anthropocentric (human-centered) and non-anthropocentric. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

PHI 1200 Life and Death Cr. 3

Central philosophical and religious questions about life and death, and the enterprise of answering these questions through reasoning and argument. What is it to be alive, and to die? Do we cease to exist when we die, or might we continue to exist in an afterlife following our deaths? Should we fear or regret the fact that we will die someday, or should we be indifferent to it? Why is killing wrong? Is it always wrong to prevent a life from beginning, or to help someone bring his or her own life to an end? What, if anything, makes a life meaningful? We will study the ways in which these questions are raised and answered in a selection of classic and contemporary works of philosophy and literature. Offered Yearly.

PHI 2100 Ancient Greek Philosophy Cr. 3

Introduction to the Western philosophical tradition from its origins in Ancient Greece. Readings from the pre-Socratics, Plato, and Aristotle. Offered Biannually.

PHI 2110 Seventeenth and Eighteenth Century Philosophy Cr. 3

A survey of the views concerning knowledge and reality of the major European philosophers of the seventeenth and eighteenth centuries such as Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. Offered Biannually.

PHI 2150 Chinese Philosophy Cr. 3

Main philosophical traditions from ancient to pre-Communist China. Readings from Confucianism, Taoism, Mohism, Legalism, Buddhism, Neo-Confucianism, and the Chinese Enlightenment. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

PHI 2320 Introduction to Ethics Cr. 3

An introduction to some classical and modern views concerning such questions as: What determines the rightness and wrongness of actions? What is the nature of moral reasoning? What constitutes a moral life? Offered Every Term.

PHI 2330 Introduction to Social and Political Philosophy Cr. 3

Introduction to the basic issues of political philosophy, such as the nature of the state, the ways of justifying its power and authority over its citizens; a philosophical analysis of central concepts like those of freedom, justice, and equality. Selected readings from some of the following: Plato, Aristotle, Hobbes, Locke, Rousseau, Mill, Marx, and Rawls. Offered Irregularly.

PHI 2390 Philosophy of Human Rights Cr. 3

Addresses central issues in the philosophy of human rights, including questions about the foundation, content, and application of human rights. Examines different approaches to the foundation of human rights and considers whether human rights have one unique foundation or plural foundations. Offered Fall.

PHI 2400 Introduction to the Philosophy of Religion Cr. 3

Religious beliefs provide subject matter for philosophical study; for example, Are the traditional arguments for the existence of God credible? Does the existence of evil conflict with a belief in God's omnipotence and omnibenevolence? What is the value of religious experience? Offered Irregularly.

PHI 2550 Introduction to Philosophy of Science Cr. 3

Distinguishing science from non-science; how scientific knowledge is established; what constitutes scientific progress; whether science is cumulative; the place of science in the enterprise of knowledge and rational belief. Offered Biannually.

PHI 2650 Philosophy of Psychology Cr. 3

Central examples of these questions and proposed answers: Could we build an intelligent computer? Is our mind just a piece of software that our brain is running? Is there a "language of thought"? Are we much less rational than we think? How can we understand each other's minds? Can there be laws in psychology? What is consciousness, and can it be studied scientifically? We will address these and other questions via the work of philosophers, psychologists and cognitive scientists. Offered Fall, Winter.

Equivalent: PSY 2650

PHI 2850 Introductory Symbolic Logic Cr. 3

The logic of propositions; the general logic of predicates and relations. Offered Yearly.

Equivalent: LIN 1850

PHI 2860 Honors Introductory Symbolic Logic Cr. 3

See PHI 1850. Offered Yearly.

Equivalent: LIN 1860

PHI 3270 Foundations of Law Cr. 3

The legal system we live under commands, forbids, punishes, and defines responsibilities and harm. Common-sense morality: what is it, and what is its relation to law? Statutory interpretation: do judges create new law? Punishment: why do we have it, and what rights do the accused have? What is the legal concept of harm and responsibility? Offered Biannually.
Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 3450 Existentialism Cr. 3

Examines major philosophical views and figures in the Existentialist tradition, such as Sartre, Camus, Heidegger, de Beauvoir, Buber, Ortega y Gasset, Kierkegaard, and Nietzsche. Offered Fall.

PHI 3500 Theory of Knowledge Cr. 3

The distinction between knowledge and belief is germane to every field of inquiry. What is the difference between knowledge and belief? Do we know anything at all? If so, how? Are we ever in a position of being certain about beliefs pertaining to an objective world? Is our belief in an objective world based on our subjective experiences? Offered Every Term.

PHI 3550 Metaphysics Cr. 3

Survey and examination of some of the enduring questions of metaphysics concerning the nature of reality. Topics include: the nature of physical objects, abstract entities, the concepts of time and change, the relation between mind and body, causation, the nature of metaphysics. Offered Yearly.

PHI 3600 Space, Time, and the Philosophy of Physics Cr. 3

Survey of some principal problems concerning the concepts of space and time and their relation to physical theories. Topics include: our knowledge of the geometric features of the world, the existence of space and time, time without change, the passage of time, the philosophical foundations and implications of Einstein's Special Theory of Relativity, and the explanation of motion and the General Theory of Relativity. No prior knowledge of modern physics will be presupposed. Offered Biannually.

Prerequisites: ([PHI 2000 with a minimum grade of D-])

PHI 3700 Philosophy of Art Cr. 3

What are art works? Why are they so moving? What is the nature of the experience they offer? This course introduces the student to some of the schools of thought on these issues. It also attempts to deal with the specific natures of the various artistic media, such as: drama, literature, film, painting, photography, music and opera. Offered Every Term.

PHI 3800 Topics in Philosophy Cr. 3

Topics to be announced in Schedule of Classes . Offered Irregularly.
Repeatable for 6 Credits

PHI 4870 Honors Directed Reading Cr. 4

Research on topic of honors essay and research for comprehensive examinations. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Philosophy Honors; enrollment limited to students in a Bachelor of Arts degree.

PHI 4890 Honors Thesis Cr. 3

Continuation of PHI 4870. Offered Winter.

Restriction(s): Enrollment limited to students in the Honors College.

PHI 4995 Research Training Cr. 1-4

Students engage in an independent research project and learn research methods in Philosophy under the supervision of a faculty member. Offered Every Term.

Repeatable for 4 Credits

PHI 5050 Advanced Symbolic Logic Cr. 4

Formal, extensive treatment of first-order predicate logic with emphasis on the notions of a formal logical language and truth in a model; the logic of identity; definite descriptions; brief introductions to set theory and the metatheory of propositional and first-order logic; some additional advanced topics to be selected by the instructor. Offered Yearly.
Equivalent: LIN 5050

PHI 5230 Philosophy of Science Cr. 4

Intensive investigation and discussion of special topics or particular authors in the philosophy of science. Offered Yearly.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

PHI 5240 Special Topics in Social and Political Philosophy Cr. 4

Selected topics and readings from major social and political philosophers. Offered Irregularly.

Prerequisites: (May be taken concurrently: [PHI 2000 with a minimum grade of D- and PHI 2000 with a minimum grade of C] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

Repeatable for 8 Credits

PHI 5260 Philosophy of Sex and Gender Cr. 3

Explores ethical and conceptual issues surrounding sex, gender, and sexual orientation. Specific topics include conceptual analysis of sex, gender, and sexual orientation; sexual perversion, natural law, consent, marriage, adultery, "casual" sex, polygamy and polyamory, prostitution, and pornography. Offered Biannually.

PHI 5270 Philosophy of Law Cr. 4

Intensive investigation and discussion of special topics or particular authors in the philosophy of law. Offered Biannually.

PHI 5280 History of Ethics Cr. 4

A survey and discussion of historically important moral philosophers from Plato to Mill. Offered Biannually.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5300 Foundations of Ethics Cr. 4

Twentieth century moral philosophers in the analytic tradition, with focus on debates in moral realism, moral epistemology, and the "Why be moral?" question; includes such philosophers as Moore, Stevenson, Foot, Mackie, Blackburn, Gibbard, Parfit, Korsgaard, and Railton. Offered Biannually.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5350 Logical Systems I Cr. 4

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. Offered Irregularly.

Prerequisites: ([PHI 1850 with a minimum grade of D-] OR [PHI 1860 with a minimum grade of D-] OR [PHI 5050 with a minimum grade of D-] OR [MAT 5600 with a minimum grade of D-] OR [MAT 5420 with a minimum grade of D-])

Equivalent: MAT 5350

PHI 5390 Logical Systems II Cr. 4

Advanced topics in logic. Offered Irregularly.

Prerequisites: ([MAT 5350 with a minimum grade of D-] OR [PHI 5350 with a minimum grade of D-])

PHI 5400 The Presocratics and Sophists Cr. 4

Selected readings on topics in philosophers who preceded or were contemporaneous with Socrates (7th - 5th centuries B.C.E), such as Heraclitus, Parmenides, Zeno, Democritus. Offered Irregularly.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5410 Plato Cr. 4

Selected readings on topics in Plato. Offered Biannually.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5420 Aristotle Cr. 4

Selected readings on topics in Aristotle. Offered Biannually.

PHI 5440 Continental Rationalism Cr. 4

Topics concerning Descartes, Spinoza or Leibniz. Offered Irregularly.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5450 British Empiricism Cr. 4

Topics concerning Locke, Berkeley or Hume. Offered Irregularly.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5460 Kant Cr. 4

Selected topics or readings in Kant's philosophy. Offered Biannually.

Prerequisites: ([PHI 2000 with a minimum grade of D-] OR [CLA 1010 with a minimum grade of D-] OR [PS 1010 with a minimum grade of D-])

PHI 5500 Topics in Metaphysics Cr. 4

Intensive investigation and discussion of special topics or particular authors in metaphysics. Offered Yearly.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

PHI 5530 Topics in Epistemology Cr. 4

Intensive investigation and discussion of special topics or particular authors in the theory of knowledge. Offered Irregularly.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

PHI 5550 Philosophy of Mind Cr. 4

Intensive investigation and discussion of special topics or particular authors concerned with the nature and status of the mental and theories about the mental. Offered Biannually.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

PHI 5570 Philosophy of Language Cr. 4

Intensive investigation and discussion of philosophical problems concerning meaning, truth, and the nature of language. Offered Biannually.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

Equivalent: LIN 5570

PHI 5630 Twentieth Century Analytic Philosophy I Cr. 4

Major works, movements, and writers in the analytic tradition in the twentieth century up to the 1940s, such as Frege, Russell, Moore, the early Wittgenstein, Carnap, Ayer. Offered Irregularly.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

PHI 5640 Twentieth Century Analytic Philosophy II Cr. 4

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. Offered Irregularly.

Prerequisites: (1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640)

PHI 5800 Special Topics in Philosophy Cr. 2-4

Topics and prerequisites to be announced in Schedule of Classes . Offered Irregularly.

Repeatable for 8 Credits

PHI 5900 Capstone Seminar in Philosophy Cr. 4

Advanced seminar in Philosophy. Topics and instructor vary by semester. Offered Fall, Winter.

Repeatable for 12 Credits

PHI 5990 Directed Reading Cr. 1-6

Intensive investigation by student on topic chosen by student in consultation with instructor. Offered Every Term.

Repeatable for 12 Credits

PHI 5993 Writing Intensive Course in Philosophy Cr. 0

Disciplinary writing assignments under direction of faculty member. Must be selected in conjunction with a course designated as a corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Directed practice in rewriting assignments for the concurrently-elected course, for the purpose of perfecting skills in philosophical writing. Does not count toward the course minimums for the major or minor. Required for all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [PHI 3000] OR [PHI 5200] OR [PHI 5400] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

PHI 7790 Seminar in Philosophy of Language Cr. 4

Offered Irregularly.

Prerequisites: ([PHI 5000])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7800 Seminar in Philosophy: Special Topics Cr. 4

Offered Irregularly.

Prerequisites: ([PHI 5000])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7810 Seminar in History of Philosophy Cr. 4

Study of a philosopher or period. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7830 Seminar in Aesthetics Cr. 4

Offered Irregularly.

Prerequisite: PHI 3700 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7840 Seminar in Ethics Cr. 4

Offered Irregularly.

Prerequisites: ([PHI 5000])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7850 Seminar in Epistemology Cr. 4

Offered Irregularly.

Prerequisites: ([PHI 5000])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7860 Seminar in Metaphysics Cr. 4

Offered Irregularly.

Prerequisites: ([PHI 5000])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 7990 Directed Study in Philosophy Cr. 1-4

Directed study for graduate students in Philosophy. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

PHI 7999 Master's Essay Direction Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 99 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHI 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHI 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHI 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHI 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

PHI 9999 Doct Diss Dir&Rsch Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

PHY - PHYSICS

PHY 1001 Perspectives in Physics, Biomedical Physics, and Astronomy Cr. 1

Survey of educational and career paths including specializations in basic research and applied disciplines; recommended for entering students and those considering or beginning a major or minor concentration. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

PHY 1020 Conceptual Physics: The Basic Science Cr. 4

Physical concepts and practical applications to everyday life of the basic principles of motion, forces, energy, matter, heat, sound, electricity, magnetism, and light. Lectures, demonstrations and optional laboratory; laboratory is strongly recommended. Meets General Education Laboratory Requirement when elected for 4 credits. Offered Every Term.

Course Material Fees: \$25

PHY 2020 Science, Technology, and War Cr. 4

Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.

Equivalent: HIS 2510, PCS 2020, PS 2440

PHY 2130 Physics for the Life Sciences I Cr. 4

Introduction to physics for students in the life sciences, preparing for medicine, dentistry, pharmacy and health sciences and for general Liberal Arts and Sciences students. Covers motion, forces, energy, diffusion, fluids, thermal physics with many biological examples. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2131. No credit after PHY 2170. Offered Every Term.

Corequisite: PHY 2131

PHY 2131 Physics for the Life Sciences Laboratory Cr. 1

Laboratory experiments in fluid mechanics, diffusion and biophysics. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2130. Offered Every Term.

Course Material Fees: \$25

PHY 2140 (PS) Physics for the Life Sciences II Cr. 4

Second part of introduction to physics for students in the life sciences, students preparing for medicine, dentistry, pharmacy and health sciences and for general Liberal Arts and Sciences students. Covers thermodynamics, electric fields, oscillations, waves and optics. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2141. No credit after PHY 2180. Offered Every Term.

Prerequisites: ((PHY 2130 with a minimum grade of C-))

Corequisite: PHY 2141

PHY 2141 Physics for the Life Sciences Laboratory Cr. 1

Laboratory experiments in electric fields, fluids, optics and spectroscopy. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2140. Offered Every Term.

Course Material Fees: \$25

PHY 2170 University Physics for Scientists I Cr. 4

For students specializing in physics, biology, chemistry, mathematics or engineering. Statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, solids and fluids, vibrations and wave motion, thermodynamics. Satisfies General Education Laboratory Requirement only when taken concurrently with PHY 2171. No credit after PHY 2175. Offered Every Term.

Prerequisites: ((MAT 1800 with a minimum grade of C-)) AND (May be taken concurrently: [MAT 2010 with a minimum grade of C-])

Corequisite: PHY 2171

PHY 2171 University Physics Laboratory Cr. 1

Laboratory experiments in statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, simple harmonic motion, optics, continuum mechanics, thermodynamics. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2170. Offered Every Term.

Course Material Fees: \$25

PHY 2175 University Physics for Engineers I Cr. 4

For students specializing in engineering. Statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, solids and fluids, vibrations and wave motion, thermodynamics. No credit after PHY 2170. Offered Every Term.

Prerequisites: ((MAT 1800 with a minimum grade of D-)) AND (May be taken concurrently: [MAT 2010 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the College of Engineering.

PHY 2180 University Physics for Scientists II Cr. 4

Electric forces and electric fields, electrical energy, capacitance, current, resistance, direct current circuits, magnetism, induced voltage and inductance, AC circuits, electromagnetic waves, geometric and wave optics. No credit after PHY 2185. Offered Every Term.

Prerequisites: ((MAT 2010 with a minimum grade of D-)) AND (May be taken concurrently: [MAT 2020 with a minimum grade of D-]) AND ((PHY 2170 with a minimum grade of C-))

Corequisite: PHY 2181

PHY 2181 University Physics Laboratory II Cr. 1

Laboratory experiments in electrostatics, currents and circuit elements, magnetic fields, magnetic induction, AC circuits, electromagnetic waves, interference of waves. Offered Every Term.

Course Material Fees: \$25

PHY 2185 University Physics for Engineers II Cr. 4

Electric forces and electric fields, electrical energy, capacitance, current, resistance, direct current circuits, magnetism, induced voltage and inductance, AC circuits, electromagnetic waves, geometric and wave optics. No credit after PHY 2180. Offered Every Term.

Prerequisites: ((PHY 2170 with a minimum grade of C-) OR [PHY 2175 with a minimum grade of C-]) AND ((MAT 2010 with a minimum grade of D-)) AND (May be taken concurrently: [MAT 2020 with a minimum grade of D-])

Restriction(s): Enrollment limited to students in the College of Engineering.

PHY 2210 General Physics Laboratory Cr. 1

Consult departmental undergraduate academic advisor prior to registering for this course. No credit after PHY 1020 if taken for four credits. Offered Every Term.

Prerequisite: PHY 1020 with a minimum grade of D-

Course Material Fees: \$15

PHY 3100 The Sounds of Music Cr. 4

For music majors and other students interested in the physical foundations of the production, perception, and reproduction of musical sounds. Makes only limited use of simple mathematics. Includes topics such as wave properties, loudness levels and the human ear, hearing loss, tone quality, frequency and pitch, musical intervals and tuning, room acoustics, the production of sound by various musical instruments, and electronic reproduction of music. Meets General Education Laboratory Requirement. Offered Fall.

Course Material Fees: \$25

PHY 3300 Introductory Modern Physics Cr. 3

For physics, chemistry, engineering, mathematics majors and other interested students. Introduction to relativity, quantum phenomena, atomic structure, quantum mechanics, condensed matter physics, quantum optics, nuclear physics, elementary particles, and anti-particles. Offered Fall, Winter.

Prerequisites: ([PHY 2130 with a minimum grade of C- and PHY 2131 with a minimum grade of C-] OR [PHY 2170 with a minimum grade of C- and PHY 2171 with a minimum grade of C-]) AND ([PHY 2140 with a minimum grade of C- and PHY 2141 with a minimum grade of C-] OR [PHY 2180 with a minimum grade of C- and PHY 2181 with a minimum grade of C-]) AND ([MAT 2020 with a minimum grade of C-])

Corequisite: PHY 3310

PHY 3310 Introductory Modern Physics Laboratory Cr. 2

Laboratory course to accompany PHY 3300. Hands-on experience in logical and rigorous analysis of phenomena of modern physics. Offered Fall, Winter.

Prerequisites: ([PHY 2140 with a minimum grade of D- and PHY 2141 with a minimum grade of D-] OR [PHY 2180 with a minimum grade of D- and PHY 2181 with a minimum grade of D-]) AND (May be taken concurrently: [PHY 3300 with a minimum grade of D-] OR [PHY 5015 with a minimum grade of D-])

Course Material Fees: \$25

PHY 3700 Mathematics for Biomedical Physics Cr. 4

Training in specific applied topics of mathematics for biomedical physics majors. Offered Fall.

PHY 3750 Introduction to Computational Methods Cr. 1

Introduction to the principles of computer programming with MATLAB or similar software. In addition to learning applications of the software, there will be opportunities for independent or group projects of interest to students. Offered Fall.

Prerequisites: ([PHY 2130 with a minimum grade of C-, PHY 2131 with a minimum grade of C-, PHY 2140 with a minimum grade of C-, and PHY 2141 with a minimum grade of C-] OR [PHY 2170 with a minimum grade of C-, PHY 2171 with a minimum grade of C-, PHY 2180 with a minimum grade of C-, and PHY 2181 with a minimum grade of C-]) AND (May be taken concurrently: [MAT 2020 with a minimum grade of C-])

Restriction(s): Enrollment is limited to students with a major in Biomedical Physics.

PHY 3990 Directed Study Cr. 1-4

Primarily for students who wish to continue in a field beyond material covered in regular courses, or who wish to study material not covered in regular courses, including certain research participation. Offered Every Term.

Repeatable for 4 Credits

PHY 4700 Introduction to Biomedical Physics Cr. 4

Basic and applied physical concepts used in biology, human anatomy, and physiology, as well as in medical diagnosis and treatment. Offered Winter.

Prerequisites: ([PHY 2130 with a minimum grade of C- and PHY 2140 with a minimum grade of C-] OR [PHY 2170 with a minimum grade of C- and PHY 2180 with a minimum grade of C-]) AND ([PHY 3700 with a minimum grade of C-]) AND ([MAT 2020 with a minimum grade of D-])

PHY 5010 Astrophysics and Stellar Astronomy Cr. 3

Electromagnetic radiation and matter; solar characteristics; stellar distances; magnitudes; spectral classification; celestial mechanics; binary stars; stellar motions, structure and evolution; compact and variable stars; Milky Way Galaxy and interstellar medium; galaxies and clusters of galaxies; quasars; Hubble's Law; cosmology. Offered Biannually (Winter).

Prerequisites: ([PHY 3300 with a minimum grade of C-])

Equivalent: AST 5010

PHY 5015 Non-classical Physics for Educators Cr. 3

Development of relativity and quantum mechanics. Emphasis on nuclear physics and elementary particles. Required math: algebra and trigonometry. Offered for undergraduate credit only. Offered Winter.
Prerequisites: ([PHY 2130 with a minimum grade of D-]) AND ([PHY 2140 with a minimum grade of D-])

PHY 5100 Methods of Theoretical Physics I Cr. 3

Introduction to mathematical tools used in advanced courses in physics. Offered Fall.

Prerequisites: ([MAT 2030 with a minimum grade of C-]) AND ([PHY 2180 with a minimum grade of C-])

PHY 5200 Classical Mechanics I Cr. 3

Introduction to fundamental ideas: Newton's laws, notions of momentum, angular momentum, kinetic and potential energy, mechanical energy, conservation laws, motion in 1- and 3-D, friction and retardation forces, oscillations, resonances, and gravitation. Offered Fall.

Prerequisites: ([PHY 2180 with a minimum grade of C-]) AND (May be taken concurrently: [PHY 5100 with a minimum grade of C-])

PHY 5210 Classical Mechanics II Cr. 3

Accelerated reference frames, centrifugal and Coriolis forces, rigid body dynamics, motion of tops and gyroscopes, Lagrange's equations, constraints, Lagrange multipliers, general central force problem, stability of orbits, relativistic mechanics. Offered Winter.

Prerequisite: PHY 5200 with a minimum grade of C- and MAT 2150 with a minimum grade of C-

PHY 5340 Optics Cr. 3

Electromagnetic radiation; geometrical, physical, and modern optics. Offered Winter.

Prerequisites: ([MAT 2030 with a minimum grade of C- and PHY 2140 with a minimum grade of C-] OR [PHY 2180 with a minimum grade of C- and PHY 3700 with a minimum grade of C-] OR [PHY 2140 with a minimum grade of C- and PHY 3700 with a minimum grade of C-] OR [MAT 2030 with a minimum grade of C- and PHY 2180 with a minimum grade of C-])

PHY 5341 Optics Laboratory Cr. 2

Experiments involving geometrical, physical, and quantum optics. Offered Winter.

Prerequisites: (May be taken concurrently: [ECE 5760 with a minimum grade of C]) AND (May be taken concurrently: [PHY 5340 with a minimum grade of C])

Course Material Fees: \$25

PHY 5620 Electronics and Electrical Measurements Cr. 3

Theory of amplifier circuits, operational amplifiers, oscillators, digital electronics, analog and digital measurements. Offered Fall.

Prerequisites: ([PHY 2180 with a minimum grade of C- and PHY 2181 with a minimum grade of C-] OR [PHY 2140 with a minimum grade of C- and PHY 2141 with a minimum grade of C-]) AND (May be taken concurrently: [PHY 5621 with a minimum grade of C-])

Corequisite: PHY 5621

PHY 5621 Electronics and Electrical Measurements Laboratory Cr. 2

Laboratory measurements related to amplifier circuits, operational amplifiers, oscillators, and digital electronics. The lab will also cover analog and digital measurements and will require a final project. Offered Fall.

Corequisite: PHY 5620

Course Material Fees: \$25

PHY 5750 Biological Physics Cr. 4

Introduction to applications of physics to molecular biology. Offered Fall.

Prerequisites: ([PHY 3700 with a minimum grade of C-]) AND ([PHY 4700 with a minimum grade of C-])

PHY 5990 Directed Study Cr. 1-3

Primarily for students who wish to continue in a field beyond material covered in regular courses, or who wish to study material not covered in regular courses, including certain research participation. Offered Every Term.

Repeatable for 6 Credits

PHY 6160 Meteorology: 2ndy Sch Cr. 3-4

Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

PHY 6400 Quantum Physics I Cr. 3

Operators and their eigenfunctions, quantization rules, solution of Schrodinger equation in 1- and 3-D, the hydrogen atom, angular momentum, spin, boson, fermions, Time-independent perturbation theory. Offered Winter.

Prerequisites: ([MAT 2150 with a minimum grade of C-, PHY 3300 with a minimum grade of C-, and PHY 5100 with a minimum grade of C-])

PHY 6410 Quantum Physics II Cr. 3

Applications of quantum mechanics: atoms in electric and magnetic fields, multielectron atoms, molecules, quantum statistics, solids (band structure, magnetic properties), nuclei, fundamental forces and standard model. Offered Fall.

Prerequisites: ([PHY 6400 with a minimum grade of C-])

PHY 6450 Introduction to Material and Device Characterizations Cr. 4

Lecture/laboratory; introduction to analytic and measurement techniques for characterizing and evaluating materials, especially for potential applicability in sensor and integrated devices. Techniques include diffraction and microscopy methods, electron spectroscopies, and electrical, optical and magnetic measurements. Offered for graduate credit only. Offered Winter.

Prerequisite: (PHY 7050 (may be taken concurrently) or ECE 5500 (may be taken concurrently) or ECE 5550 (may be taken concurrently))

Restriction(s): Enrollment is limited to Graduate level students.

PHY 6500 Thermodynamics and Statistical Physics Cr. 4

Laws of thermodynamics, thermodynamic equilibrium, applications of kinetic theory of gases, basic introduction to classical and quantum statistical description of physical systems with large numbers of particles. Offered Fall.

Prerequisites: ([PHY 3300 with a minimum grade of C- and PHY 5100 with a minimum grade of C-])

PHY 6570 Smart Sensor Technology I: Design Cr. 4

Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 6470, ECE 6570

PHY 6600 Electromagnetic Fields I Cr. 3

Topics include electrostatics, solution of Laplace equation, dielectric media, electric current, magnetic field of steady currents, magnetic properties of matter, electromagnetic induction. Offered Fall.

Prerequisite: PHY 5100 with a minimum grade of C- and PHY 5200 with a minimum grade of C- and MAT 2150 with a minimum grade of C-

PHY 6610 Electromagnetic Fields II Cr. 3

Continuation of PHY 6600: Maxwell equations, electromagnetism and relativity, optics, wave guides and transmission lines, radiation of EM waves. Offered Winter.

Prerequisite: PHY 6600 with a minimum grade of C-

PHY 6710 Physics in Medicine Cr. 3

Applications of physics in medicine including radioactivity; interaction of radiation in matter; x-ray, CT, MRI, ultrasound, and PET imaging; nuclear medicine; radiation oncology; nerve electrophysiology, electrocardiogram, pacemakers, and defibrillators. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Biomedical Physics.

PHY 6750 Applied Computational Methods Cr. 2

Development of concepts learned in PHY 3750 or PHY 3310 for computer applications in physics research, including applications in theoretical physics, data fitting, image analysis, and integration with experimental equipment. There will be opportunities for independent as well as group projects. Offered Fall.

Prerequisite: PHY 3750 with a minimum grade of C- or PHY 3310 with a minimum grade of C-

PHY 6780 Research Methods in Biomedical Physics Cr. 3

Introduction to laboratory experience in biomedical physics research. Capstone course for biomedical physics majors. Offered Winter.

Prerequisites: ([PHY 3700 with a minimum grade of C- and PHY 4700 with a minimum grade of C-])

PHY 6850 Modern Physics Laboratory Cr. 2

Techniques and experiments in physics of atoms, atomic nuclei, molecules, the solid state and other areas that have advanced our modern understanding of physics. Offered Winter.

Prerequisites: ([PHY 3300 with a minimum grade of C-])

Course Material Fees: \$25

PHY 6860 Computational Physics Cr. 3

Introduction to use of computers to model physical systems; description of techniques in numerical analysis including linear algebra, integration, algebraic and differential equations, data analysis and symbolic algebra. Offered Fall.

Prerequisites: ([PHY 3310 with a minimum grade of C-] OR [PHY 5100 with a minimum grade of C-])

PHY 6991 Special Topics Cr. 1-4

Topics and prerequisites for each section to be announced in Schedule of Classes . More than one section may be elected in a semester. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

PHY 6992 Physics Graduate Teaching Assistant Training Cr. 1

Students solve and discuss problems from calculus-based general physics courses in front of their peers and instructor, enhancing their ability to analyze, interpret and present the material in a clear, informative way. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7010 Modern Physics for Secondary School Educators Cr. 3

Development of relativity and quantum mechanics. Emphasis on nuclear physics and elementary particles. Required math: algebra and trigonometry. Offered Fall, Spring/Summer.

Prerequisite: PHY 2130 with a minimum grade of C- and PHY 2140 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7050 Survey of Condensed Matter Physics Cr. 3

Contemporary solid state physics dealing primarily with experiments in this area and with modern descriptive models of solids. Offered Winter.

Prerequisite: PHY 6400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7060 Survey of Elementary Particle Physics Cr. 3

Fundamental interactions and the basic particles; introduction to quantum mechanical treatment of decay, scattering, spin, internal symmetries; introduction to quantum field theory; gauge theories; the standard model and proposed modifications; experimental evidence; survey of experimental methods, detector, accelerators and colliders. Offered Winter.

Prerequisite: PHY 6400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7070 Survey of Nuclear Physics Cr. 3

Survey of nuclear decay, nuclear structures, nuclear interactions and reactions, nuclear models, conservative laws and subnuclear particles. Offered Winter.

Prerequisite: PHY 6400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7110 Methods of Theoretical Physics II Cr. 3

Complex variables and their applications. Homogeneous and inhomogeneous differential equations. Special functions such as gamma functions, Bessel functions, Legendre functions, Hermite functions and Laguerre functions. Fourier series. Offered Fall.

Prerequisite: PHY 5100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7200 Advanced Mechanics Cr. 3-4

Variational principles, central forces, transformation theory, Hamilton-Jacobi theory. Offered Winter.

Prerequisite: PHY 5210 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7215 Nanobioscience Cr. 3

Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PSL 7215

PHY 7400 Quantum Mechanics I Cr. 3

Physical and mathematical principles of quantum mechanics. Schrodinger equation and its applications. Spin and angular momentum in quantum mechanics. The WKB approximation. Perturbation theory for time-independent and time-dependent cases. Offered Fall.

Prerequisite: PHY 6410 with a minimum grade of C and PHY 7110 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7410 Quantum Mechanics II Cr. 3

Scattering theory. Partial wave expansion and perturbation theory. Bound states. Symmetry principles and conservation laws. The path integral formalism. Entanglement. Quantum computation. Charged particles in electromagnetic fields. Quantum theory of radiation. Relativistic one-particle equations Offered Winter.

Prerequisite: PHY 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7500 Statistical Mechanics Cr. 4

Classical and quantum statistical mechanics and applications. Offered Fall.

Prerequisite: PHY 6500 with a minimum grade of C and PHY 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7550 Advanced Condensed Matter Physics: Solid State Cr. 3

Current topics in condensed matter physics, including electronic band structure, magnetism, superconductivity, nanophysics, and the optical properties of solids. Offered Biannually (Fall).

Prerequisite: PHY 7050 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7560 Advanced Condensed Matter Physics: Soft Matter Cr. 3

Current topics in condensed matter physics, including the building blocks, structures, physical properties, and phase transitions in a variety of complex fluid systems such as simple liquids and liquid mixtures, colloids, polymers, liquid crystals, amphiphiles, and soft matter in living organisms. Offered Biannually (Winter).

Prerequisite: PHY 7050 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7580 Smart Sensor Technology II: Characterization and Fabrication Cr. 4

Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Offered Winter.

Prerequisite: PHY 6570 with a minimum grade of C or ECE 6570 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$50

Equivalent: BME 7470, ECE 7570

PHY 7600 Electromagnetic Theory I Cr. 3

Microscopic and macroscopic Maxwell's equations, special relativity, Lagrangian and Hamiltonian formulation of EM theory, energy-momentum tensor, conservation laws, radiation, scattering, applications. Offered Winter.

Prerequisite: PHY 6610 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7610 Electromagnetic Theory II Cr. 3

Continuation of PHY 7600. Offered Fall.

Prerequisite: PHY 7600 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 7990 Directed Study Cr. 1-3

Application forms available in department office. Primarily for graduate students in physics who wish to study material not covered in regular courses. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

PHY 7996 Research in Physics Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

PHY 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

PHY 8800 Advanced Nuclear Physics Cr. 3

Research topics in nuclear physics such as: relativistic heavy ion physics, nuclear/nucleon models, and many body theory. Covers both theory and experimental methods. Offered Biannually (Winter).

Prerequisite: PHY 7070 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 8810 Advanced Particle Physics Cr. 3

Advanced elementary particle physics including weak, electromagnetic, and strong interactions. Rudiments of experimental devices and techniques at level appropriate to both experimentally- and theoretically-oriented students. Offered Biannually (Fall).

Prerequisite: PHY 7060 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 8850 Quantum Theory of Fields I Cr. 3

Introduction to quantum field theory, classical and path integral quantization of scalar, spinor, and vector fields, gauge theories, interactions and Feynman rules, modal field theories, Hubbard model, introduction to renormalization Suitable for both students of theory and experiment in the fields of nuclear, particle, and condensed matter physics and astrophysics. Offered Biannually (Fall).

Prerequisite: PHY 7110 with a minimum grade of C and PHY 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 8860 Quantum Theory of Fields II Cr. 3

Symmetry and symmetry breaking. Goldstone theorem and Higgs effect, renormalization group, collective phenomena, superfluids and superconductivity, the Standard Model of electroweak interactions, effective field theories. Appropriate for students in fields of nuclear, particle, condensed matter physics and astrophysics. Offered Biannually (Winter).

Prerequisite: PHY 8850 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

PHY 8991 Special Topics Cr. 1-3

Topics and prerequisites for each section to be announced in Schedule of Classes. More than one topic may be elected in a semester. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

PHY 8995 Colloquium Cr. 1

Must be elected every semester by all graduate physics students. Lectures given by external visitors and graduate faculty. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PHY 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHY 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHY 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PHY 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

POL - POLISH

POL 1010 Elementary Polish I Cr. 4

Development of practical skills in understanding, reading, speaking and writing Polish; emphasis on fundamental communication skills. Offered Fall.

Course Material Fees: \$5

POL 1020 Elementary Polish II Cr. 4

Continuation of POL 1010. Development of practical skills in understanding, reading, speaking and writing Polish; emphasis on fundamental communication skills. Offered Winter.

Prerequisites: ([POL 1010 with a minimum grade of D-])

Course Material Fees: \$5

POL 2010 Intermediate Polish Cr. 4

Further development of Polish language and cultural proficiency through listening, reading, speaking and writing activities, and examination of Polish culture. Completion of this course fulfills the General Education requirement for foreign language and culture. Offered Fall.

Course Material Fees: \$5

POL 2030 Polish Conversation Cr. 1

Development of Polish oral language skills through intensive speaking and listening practice. Offered Fall, Winter.

Prerequisites: ([POL 2010 with a minimum grade of D-])

Repeatable for 4 Credits

POL 2035 Polish Conversation II Cr. 1

Students develop speaking and listening comprehension skills discussing a variety of topics including work, leisure time, pets, living arrangements, cooking, fashion, and shopping. Particular attention is paid to expressing opinions and arguing a point. Offered Fall.

Prerequisites: ([POL 1020 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

POL 2060 Composition and Conversation Cr. 4

For students with rudimentary knowledge of Polish. Vocabulary and aspects of grammar not discussed in the previous courses, practiced through oral and written composition and translation exercises. Offered Winter.

Prerequisites: ([POL 2010 with a minimum grade of D-])

Repeatable for 8 Credits

POL 2710 Survey of Polish Culture Cr. 3

Introductory cultural survey from beginnings of Polish state to present. Polish society and cultural developments analyzed in comparative contexts. Offered Fall, Winter.

POL 3000 Polish Grammar and Usage Cr. 4

Comprehensive review of Polish grammar; proper usage, vocabulary expansion. For intermediate or advanced-level students, including heritage speakers. Offered Yearly.

Prerequisites: ([POL 2010 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

POL 3030 Language Skills: Advanced Speaking and Writing Cr. 2-4

Original texts and audio-visual materials used to further knowledge of Polish language. Special attention paid to vocabulary enrichment, colloquial usage and idioms needed for achieving independent expression in the Polish language. Offered Fall.

Prerequisites: ([POL 2060 with a minimum grade of D-])

POL 3060 Medical Polish I Cr. 1

One of two online Polish language courses designed to teach vocabulary used in the medical field. POL 3060 focuses on the human musculoskeletal and digestive systems, their diseases and treatments, medical facilities and doctor-patient interactions. Offered Fall, Winter.

Prerequisites: ([POL 1020 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

POL 3061 Medical Polish II Cr. 1

One of two online Polish language courses designed to teach vocabulary used in the medical field. POL 3061 focuses on the human cardiovascular and respiratory systems, their diseases and treatments, on dentistry, and on doctor-patient interactions. Offered Fall, Winter.

Prerequisites: ([POL 1020 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

POL 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3

Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.

Equivalent: ARM 3410, GER 3410, RUS 3410, SLA 3410

POL 3700 The Changing Face of Europe Cr. 1-2

Special topics relating to Central, Eastern and Western Europe. Offered Irregularly.

Equivalent: GER 3700, RUS 3700, SLA 3700

POL 3750 Polish and Yugoslavian Cinema Cr. 3

Two national cinemas introduced through milestone films and lesser-known cinematic gems produced before and after the fall of communism. Offered Winter.

Equivalent: SLA 3750

Repeatable for 998.99 Credits

POL 3800 Topics in Slavic Studies Cr. 3

Special topics relating to Slavic languages, literatures and cultures, such as drama, the Gulag, and contemporary Polish culture. Offered Yearly.

Equivalent: RUS 3810, SLA 3800

Repeatable for 9 Credits

POL 3990 Directed Study Cr. 1-3

For students desiring additional work in the language at the intermediate level; for programs of work not included in scheduled course, either in language or literature. Offered Every Term.

Prerequisites: ([POL 2010 with a minimum grade of D-])

Repeatable for 6 Credits

POL 5990 Directed Study Cr. 1-3

Offered Every Term.

Prerequisites: ([POL 3020 with a minimum grade of D-])

Repeatable for 12 Credits

POL 5993 Writing Intensive Course in Polish Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.

Prerequisites: ([AA] Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

POL 5999 Internship in Polish Studies Cr. 3

Internship in a public or private organization related to Polish studies.
Offered for undergraduate credit only. Offered Every Term.

Prerequisite: POL 3000 with a minimum grade of C- or POL 3030 with a minimum grade of C- or POL 3060 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Slavic Studies or Slavic Studies Honors.

PPR - PHARMACY PRACTICE

PPR 4115 Social Administrative Sciences and Professional Development I Cr. 2

Designed to familiarize the student with pharmacy as a profession and to facilitate an understanding of its place in health care today and in the future. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 4245 Patient Care Lab 1 Cr. 1

The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$35

PPR 4255 Social Administrative Sciences and Professional Development II Cr. 2

Exploration of health care delivery and payment systems, with an emphasis on pharmacy and pharmacists. Discussion of social constructs, cultural sensitivity, and health belief models as related to pharmacy practice. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 4315 Pharmacy Jurisprudence Cr. 2

Application of Michigan state and federal laws to the practice of pharmacy. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 4365 Introductory Pharmacy Practice Experience I Cr. 1

Beginning learning experiences for patient interviewing and counseling, interaction with healthcare professionals, pharmacy practice in various settings, interprofessional education, healthcare in the underserved population, and community service. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5145 Patient Care Lab II Cr. 1

The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$35

PPR 5155 Social Administrative Sciences and Professional Development III: Practice Management Cr. 2

Focus on topics that will enable an understanding of how pharmacy services are managed and how to manage personnel and provide leadership. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5165 Introductory Pharmacy Practice Experience II Cr. 1

Beginning learning experiences for patient interviewing and counseling, interaction with healthcare professionals, pharmacy practice in various settings, interprofessional education, healthcare in the underserved population, and community service. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5215 Applied Pharmacokinetics and Pharmacogenomics Cr. 2

Application of knowledge of pharmacokinetics and pharmacogenomics to patient-specific drug dosing. Offered Winter.

Prerequisites: ((PSC 5115))

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5245 Patient Care Lab III Cr. 1

The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$35

PPR 5255 Social Administrative Sciences and Professional Development IV Cr. 2

Designed to enable understanding of the importance of constructing medication systems and processes around proven best practices to maximize patient safety and to begin developing the ability to conceptualize, implement, and manage these systems in all health care settings. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5265 Introductory Pharmacy Practice Experience III Cr. 1

The introductory pharmacy practice experiences are to provide a beginning learning experiences for patient interviewing and counseling, interaction with healthcare professionals, pharmacy practice in various settings, interprofessional education, healthcare in the underserved population, and community service. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Course Material Fees: \$75

PPR 5990 Directed Study in Pharmacy Practice Cr. 2

No credit after election of two credits in any of PSC 5990, PSC 5991, PSC 5992, except by written consent of department chair. Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6115 Applied Therapeutics in Self-Care Cr. 2

Application of concepts of patient assessment, therapeutics, patient education, and health care systems to patient self-care. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6145 Patient Care Lab IV Cr. 1

The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6155 Social Administrative Sciences and Professional Development V Cr. 3

Development of and justification for a pharmacy service, including background, service objectives, service design, implementation plan, and evaluation. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6165 Community-Introductory Pharmacy Practice Experience (C-IPPE) Cr. 2

Introduction to the organization and provision of community pharmacy services. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6175 Hospital-Introductory Pharmacy Practice Experience (H-IPPE) Cr. 2

Introduction to the organization and provision of health-system pharmacy services. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6180 Advanced Ethics and Professional Responsibility Cr. 2

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. Offered Fall.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6235 Social Administrative Sciences and Professional Development V Cr. 2

Understanding, developing and evaluating population health and population-based health care programs. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Equivalent: PPR 6290

PPR 6245 Pharmacy Ethics and Professional Responsibility Cr. 2

Understanding ethical precepts and applying normative principles to the practice of pharmacy in the context of professional service to the community. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Equivalent: PPR 6180

PPR 6290 Population-Based Medication Management Cr. 2

Evaluation of medication use within selected populations. Discussions include therapeutic, humanistic, and economic outcomes and drug utilization review. Offered Yearly.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy or Master in Public Health programs; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6295 Clinical Capstone Cr. 2

Utilization of pharmacotherapeutic-related knowledge and skills to evaluate patient cases and practice-related problems in order to assess students' preparedness for advanced pharmacy practice experiences. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6300 Patient Perspectives of Health, Illness and Culture Cr. 2

People from various cultures (religious, ethnic, sexual orientation, disability, chronic illness, economic status) discuss in small groups how these cultures influence living with a chronic illness. Students also discuss readings on health culture and keep a journal on their course experience. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: OT 6320

PPR 6320 Underserved Care: Local and Global Experiences Cr. 2

Provides the opportunity for hands-on clinical experience in local and international under-served communities. Offered Every Term.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6520 Contemporary Issues in Nutrition Support Cr. 2

Provision of patient care in cooperation with patients, patients' agents, prescribers, and other members of an interprofessional health care team; management and use of resources of the health care system; evaluation of a patient case and design of an optimal nutritional regimen. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6550 Psychiatric Pharmacy Cr. 2

Covers core clinical sciences beyond the required pharmacotherapy modules on psychiatric topics. Offered Spring/Summer.

Prerequisite: PHA 5155 or PHA 5225

PPR 6560 Foundations in Global Health Cr. 2

Provides pharmacy students an introduction to Global Health and enables them to explore their own Global Health interests through local volunteering, class discussions and group projects. Offered Fall.

Restriction(s): Enrollment limited to students with a class of PharmD Yr 3 or PharmD Yr 4; enrollment limited to students in the Doctor of Pharmacy program.

PPR 6580 Contemporary Issues in Anticoagulation Management Cr. 2

Advanced therapeutics in area of anticoagulant use. Offered Fall.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6590 Principles of Pain Management Cr. 2

Covers core clinical sciences beyond the required pharmacotherapy modules on pain management topics. And expands on the pathophysiology, pharmacology, and therapeutics covered in the core clinical sciences courses to assist the student pharmacist in developing assessment skills emphasizing inter-professional collaboration. Offered Winter.

Prerequisites: ([PPR 5225])

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6720 Clinical Applications of Diabetes Cr. 2

Advanced elective course on management of diabetes mellitus and its related disorders. Principles of student directed learning, literature discussion and evaluation, interprofessional exposure, small group learning, and hands-on activities. Offered Fall.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6770 Study of Medicinal Plants and Culture in Amazonia Cr. 2

Ethnobotany of indigenous plants and use of these substances in the health and beliefs of the native people. Students meet with botanists, taxonomists, pharmacists, shamans, and native people. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6860 Principles of Pediatric Pharmacy Cr. 2-3

Common pediatric problems and diseases including poisonings, cystic fibrosis, sickle-cell anemia, placental transfer of drugs and teratology. Offered Yearly.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7195 Advance Research Scholars: Advance Pharmacy Practice Experience Cr. 4

Provides capstone research instruction aimed at project completion, writing and peer review processes, and research program advancement. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 7225 Vaccines in Clinical and Public Health Practice Cr. 2

Explorations of topics related to use of vaccines for infants, children and adults in practice settings that include clinics, pharmacies and public health programs. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of PharmD Yr 2; enrollment limited to students in the Doctor of Pharmacy or Master in Public Health programs; enrollment is limited to Professional level students.

PPR 7410 Advanced Pharmacy Practice Inpatient/Acute Care Cr. 4

Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$75

Repeatable for 12 Credits

PPR 7420 Advanced Pharmacy Practice Ambulatory Care Cr. 4

Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 12 Credits

PPR 7430 Advanced Pharmacy Practice Patient Care Core Cr. 4

Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 12 Credits

PPR 7530 Advanced Pharmacy Practice Patient Care Elective I Cr. 4

Experimental education designed to provide practical training experience in managing drug therapy of specialized patients in diversified health-care settings. Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 8 Credits

PPR 7540 Advanced Pharmacy Practice Non-Patient Care Elective I Cr. 4

Practical education to develop knowledge in specific areas of pharmacy practice in specialized pharmacy or health-care settings. Offered Every Term.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 8 Credits

PPR 7550 Advanced Pharmacy Practice Hospital Cr. 4

Practical training experience in hospital pharmacy practice, including pharmacy operations and clinical services. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7560 Advanced Pharmacy Practice Community Cr. 4

Practical training experience in management of a community pharmacy, and managing drug therapy of patients in community pharmacy setting. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7840 Seminar in Pharmacy Cr. 1

Reports and discussions by students and members of the staff concerning current developments in clinical pharmacy. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7960 Economic Evaluation of Health Care Interventions Cr. 2-3

Designed for advanced professional students (3rd year pharmacy, medicine, health sciences), students in the Master of Public Health degree program, graduate students and Fellows who would like an introduction to cost-effectiveness analysis. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7990 Directed Study in Pharmacy Practice Cr. 1-3

Minor projects in pharmacy for students whose interests and needs are not adequately met in other scheduled classes or in the doctoral research project. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PS - POLITICAL SCIENCE

PS 1000 Introduction to Political Science Cr. 3

Introduction to the scope and method of political science. Overview of politics, political systems, nature and role of political institutions. Empirical political theory; practice in conducting political research. Offered Yearly.

PS 1010 American Government Cr. 4

Politics and functions of American governmental institutions. Policy processes and the role of citizens in the political process. No credit after PS 1030. Offered Every Term.

PS 1030 The American Governmental System Cr. 3

Structure and functions of the American political system. Governmental institutions and processes. No credit after PS 1010. Offered Every Term.

PS 1050 Understanding Political Science Statistics Cr. 4

Applications of elementary statistical methods to the study of American government, comparative politics, and international relations. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [MAT 0993 with a minimum grade of CNC] OR [MAT 0900 with a minimum grade of CNC] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 11601-19999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 01601-09999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 21601-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 31601-39999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 11601-19999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 21601-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 31601-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 11601-19999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 21601-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 31601-39999] OR [MAT 2010 with a minimum grade of C-] OR [MAT 1050 with a minimum grade of C-] OR [MPR2/MPE is outdated with a test score minimum of 31509-39999] OR [MPR2/MPE is outdated with a test score minimum of 21509-29999] OR [MPR2/MPE is outdated with a test score minimum of 11509-19999] OR [MPR1/ACTMath is outdated with a test score minimum of 31509-39999] OR [MPR1/ACTMath is outdated with a test score minimum of 21509-29999] OR [MPR1/ACTMath is outdated with a test score minimum of 01509-09999] OR [MPR1/ACTMath is outdated with a test score minimum of 11509-19999])

Equivalent: STA 1020

PS 2000 Introduction to Urban Studies Cr. 4

Urban phenomena, past and present; quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.

Equivalent: GPH 2000, HIS 2000, SOC 2500, US 2000

PS 2240 Introduction to Urban Politics and Policy Cr. 4

Influences on politics and problems of cities, forms of local political involvement, role of local public officials, impact of state and federal policies. Overview of current issues and problems in specific policy areas. Offered Yearly.

PS 2310 Introduction to Public Administration Cr. 4

Governmental and administrative structures and organizations. Concepts and techniques of public management. Impact of public bureaucracies on modern society. Offered Every Term.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 2410 Introduction to Public Policy Cr. 4

Public policy-making institutions and processes. Emphasis on theory and practice of policy formation, implementation and evaluation. Various models of political decision making. Offered Every Term.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 2420 Ethics and Politics of Public Policy Cr. 4

Moral and political standards for policy-making, relation of major political and social theorists to policy issues such as economic inequality, racial and sexual discrimination, the enforcement of morals, and violence and social change. Offered Yearly.

PS 2440 Science, Technology, and War Cr. 4

Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

Equivalent: HIS 2510, PCS 2020, PHY 2020

PS 2460 Policy and Rationality: Dilemmas of Choice Cr. 4

Individual decision-making and limitations on human cognition; collective choice; implications for policy development. Offered Yearly.

PS 2510 Introduction to Political Ideologies Cr. 4

Comparison of ideologies, political institutions, and economic systems. Democracy and authoritarianism, capitalism, socialism and communism contrasted. Offered Yearly.

PS 2550 The Study of Non-Violence Cr. 3

Intellectual and social roots of non-violence and the practice of non-violence in different people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.

Equivalent: HIS 2530, PCS 2050, SOC 2050

PS 2700 Introduction to Canadian Studies Cr. 3

Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.

Equivalent: ENG 2670, GPH 2700, HIS 2700

PS 2710 Introduction to Comparative Politics Cr. 4

Comparison of the political cultures, politics, and political institutions of Eastern, Western, and Southern European political systems. Similarities and differences in public policies; European influence; parallels in developing nations. Offered Biannually.

PS 2810 World Politics Cr. 4

Role of power, methods of resolving international conflict, economic relations between industrialized and Third World countries, multinational corporations, terrorists, and other non-state actors. Offered Yearly.

PS 2820 Introduction to Peace and Conflict Studies Cr. 3

Open to all undergraduate students. Introduction to the peace and conflict studies co-major. Survey, ranging from biology and conflict among animals to disputes involving the individual, the family, the neighborhood and region, the nation and global or international community. Definitions and approaches to peace. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.

Equivalent: HIS 2500, PCS 2000

PS 2830 Topics in Peace and Conflict Studies Cr. 1-4

Special topics relating to peace and conflict studies. Offered Every Term.

Equivalent: HIS 2520, PCS 2010

Repeatable for 12 Credits

PS 2992 Political Science Internship Cr. 1-4

Internship in a public or quasi-public organization, agency, civic or voluntary group, or campaign organization. Collateral reading, written work and arranged conferences with faculty supervisor. Offered Every Term.

Repeatable for 4 Credits

PS 3010 Public Opinion and Political Behavior Cr. 4

Factors that shape public opinion; patterns of political participation and electoral politics. Impact of public opinion and popular participation on the political system. Offered Yearly.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 3020 Political Parties and Elections Cr. 4

Development, structure, functions and operations of American political parties; their electoral and governmental roles; comparison with other systems; possible reforms. Offered Biannually.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 3025 Political Campaigns in America Cr. 4

Nature and dynamics of campaigns for public office in the U.S. Campaign techniques and strategies in an era of candidate-centered American politics. Offered Irregularly.

PS 3030 Political Interest Groups Cr. 4

Structure, techniques and internal politics of interest groups, their roles in policy-making and relationship with other groups such as political parties, legislatures and administrative agencies. Offered Irregularly.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 3040 The Legislative Process Cr. 4

Function, structure, procedures and politics of American legislative bodies with special attention to Congress. Relationships with other political institutions, especially the executive branch, and comparisons with foreign legislative institutions. Offered Yearly.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 3050 Politics of the American Presidency Cr. 4

Constitutional, historical, and political bases of the presidency. Influence of courts, Congress, interest groups, the news media, and personality on the office. Offered Irregularly.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 3060 State Government and Politics Cr. 4

A comparison of states in the United States in terms of their governmental structures, functions and response to changes in national and local relationships. Offered Biannually.

PS 3070 Michigan Politics Cr. 4

History and overview of Michigan politics: structure, process, current issues. Offered Every Term.

PS 3080 Gender and Politics Cr. 4

Genesis and perpetuation of gender roles; feminist movements to modify these roles; impact of gender on public policy; gender-differentiated impact of public policy. Offered Irregularly.

PS 3100 American Legal Systems and Processes Cr. 4

Analysis of the institutional structure, processes and policy-making of the American judicial system, including the recruitment of lawyers and judges, the influence of legal rules on policy-making, and selected areas of judicial policy-making. Emphasis on federal and state appellate courts. Offered Yearly.

PS 3120 Politics of the Criminal Justice Process Cr. 4

Political aspects of criminal justice; politics of crime legislation, police function, prosecution, adjudication, and corrections; Federal role in criminal justice. Offered Yearly.

Equivalent: CRJ 3120

PS 3250 Detroit Politics: Continuity and Change in City and Suburbs Cr. 4

Detroit area political systems and processes; historical, economic, and social influences on local politics. Traditions, changes, and future challenges in Detroit and metropolitan area. Offered Biannually.

Equivalent: HIS 3240

PS 3430 Bureaucracy and Public Policy Cr. 4

Theory and development of modern governmental bureaucracy. Bureaucratic politics and its significance for decision making and program implementation. Normative aspects of bureaucracy, including accountability to the public and the role of bureaucrats in helping to define rational, efficient policies. Offered Biannually.

Prerequisites: ([PS 1010 with a minimum grade of D-] OR [PS 1030 with a minimum grade of D-])

PS 3450 Environmental Policy and Politics Cr. 4

Introductory course; primary focus on United States. Discussion of major environmental problems and their causes; environmental politics and the policy process. Offered Biannually.

PS 3510 Law, Authority and Rebellion Cr. 4

Analysis of major theories of law, authority, freedom, and political obligation; justifications of disobedience, resistance and revolution. Offered Biannually.

PS 3515 American Political Thought Cr. 3-4

American political culture and thought through modern history from 1930 to the present. Variety of interpretations of American political culture including conservative, liberal, Marxist, and post-modernist. Offered Biannually.

PS 3520 Justice Cr. 4

Analysis of major theories of justice; social, economic and political justice. Offered Biannually.

PS 3530 Great Political Thinkers I Cr. 4

Great political thinkers from Plato to Machiavelli. Offered Biannually.

PS 3540 Great Political Thinkers II Cr. 4

Great political thinkers from Machiavelli to the present. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

PS 3600 Methods of Political Inquiry Cr. 4

Techniques of political science research: data gathering techniques, especially survey design; data processing and analysis using computers; and the interpretation and reporting of statistical results. Offered Every Term.

PS 3710 Politics of Western Europe Cr. 4

Western Europe: driving force in world politics over centuries; lofty principles and gruesome conflict. Origins of European political systems; twentieth-century crises; ongoing process of creating united Europe. Offered Biannually.

PS 3715 Politics of Central and Eastern Europe Cr. 4

Central and eastern Europe: crossroads of many world civilizations and birthplace of the movements that shaped the modern world. Rise and fall (and rise?) of nationalism, communism, and democracy in the region. Offered Biannually.

PS 3735 Politics of Latin America Cr. 4

Political, social, economic and cultural foundations, the structure and function of institutions, and political processes in Latin America. Offered Biannually.

PS 3770 Politics of East Asia Cr. 4

Survey of five major polities in East Asia: China, Taiwan, Japan, South Korea, and (more briefly) North Korea. Why some of them have undergone democratization and others have not; how political factors have affected their recent economic performance; what explains conflicts and cooperation among them, and what security implications they hold for the United States. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: ASN 3770

PS 3795 Latin America in World Affairs Cr. 4

Latin America's position in the international system; relationships between Latin American countries and the United States. Offered Biannually.

PS 3811 Theory of World Politics Cr. 4

Major theoretical approaches. Evaluation of the extent to which theses that devolve from realist, idealist, globalist, culturalist, feminist and decision-making approaches allow the explication of phenomena in world politics. Offered Irregularly.

Prerequisites: ([PS 2810 with a minimum grade of D-])

PS 3820 Pan Africanism: Politics of the Black Diaspora Cr. 4

Interplay of Pan Africanism as a cultural and socio-political movement in world politics from its origins as a concept to organizing practice worldwide. Offered Yearly.

Equivalent: AFS 3420

PS 3830 War Cr. 4

Major theoretical and methodological approaches to study of international conflict. Analysis of impact of domestic, state, and global system factors in explicating international war. Aspects of civil wars that have become internationalized. Offered Irregularly.

Prerequisite: PS 2810 with a minimum grade of C-

PS 3835 Middle East Conflict Cr. 4

International and regional factors affecting contemporary political landscape of the region: influence of European colonialism; emergence and persistence of Palestinian-Israeli conflict; contemporary developments in the Persian Gulf and the role of U.S. policy since 9/11. Discussion of topics of current interest such as the situation in Iraq and the prospects for democratic reform in the region. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

PS 3840 American Foreign Policy and Administration Cr. 4

Shaping and administering United States foreign policy; influences of Congress and interest groups on the White House; secrecy; and the foreign service. Offered Irregularly.

PS 3991 Directed Study: WSU-Salford Exchange Cr. 3-9

Credit earned through approved upper-division course work at the University of Salford, England, as part of the W.S.U.- Salford Exchange Program. Offered Fall, Winter.

PS 4460 Techniques of Policy Analysis Cr. 4

Introduction to several major techniques used by policy analysts to measure and evaluate the effectiveness, efficiency, and equity of public policies and programs. Approaches and methodologies considered will include systems analysis, benefit-cost analysis, and simulation. This course involves quantitative data analysis. Students are expected to be proficient in basic algebra and to be computer literate. Offered Yearly.

Course Material Fees: \$5

PS 4710 Democracy Cr. 4

"The worst form of government except for all the others?" How democracy has evolved from ancient Athens until today. What makes democracy work. How democratization is proceeding in Latin America, Europe, Africa, Asia. Offered Biannually.

PS 4725 Globalization and Politics Cr. 4

Domestic and international politics and globalization: theories and evidence. Consequences for economic development and democratization or economic inequality. Questions explored include: What is economic globalization? Is it really new? What caused its recent resurrection? What political disjunctions engendered the process and how do they vary within political institutions? How has it threatened sovereign nation-states, constrained governmental policy autonomy, and encouraged regional separatist movements? Offered Biannually.

PS 4799 Topics in Comparative Politics Cr. 3-4

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 Offered Irregularly.

Prerequisites: ([PS 2710 with a minimum grade of D-])

Repeatable for 8 Credits

PS 4810 Foreign Policies of Major Powers Cr. 4

Major issues and trends in the foreign policies of Russia, China, Japan, and the European Union. Offered Biannually.

PS 4850 International Organizations Cr. 4

Issues of global governance; role of international organizations in managing issues that cross borders. Offered Irregularly.

Restriction(s): Enrollment is limited to Undergraduate level students.

PS 4990 Directed Study Cr. 1-4

Offered Every Term.

PS 4995 Senior Honors Paper Cr. 4

Completion of an extended examination of a topic or research question in political science, under the direction of one or more members of the departmental faculty. Offered Every Term.

PS 5030 African American Politics Cr. 4

Nature and texture of black politics; various perspectives on politics by blacks; the impact of blacks on American politics. Offered Biannually.

Equivalent: AFS 5030

PS 5040 Religion and Politics Cr. 4

Religion and American political culture; religious institutions and religious movements; church lobbying in national, state, and local governments; specific manifestations of religion and politics; African Americans, women and conservative Christians. Offered Biannually.

Prerequisites: ([PS 1010 with a minimum grade of D-]) OR [PS 1030 with a minimum grade of D-])

PS 5050 Mass Media and Politics Cr. 3

Role of communications media in modern politics. Historical evolution of media; political impact of newspapers, radio and television; polling and the media; political advertising; media law; mass media and the future of American democracy. Offered Biannually.

Prerequisites: ([PS 1010 with a minimum grade of D-]) OR [PS 1030 with a minimum grade of D-])

PS 5110 Constitutional Law Cr. 4

Examination of the power of judicial review, barriers to court review, distribution of powers in the national government, federal-state relations, federal-state power to regulate and tax interstate commerce, and protection of property through the due process clause. Offered Yearly.

PS 5120 Constitutional Rights and Liberties Cr. 4

The Bill of Rights and the Fourteenth Amendment's due process and equal protection clauses, including rights of criminal defendants, freedom of speech and religion, race and sex discrimination. Offered Yearly.

PS 5560 Biopolitics Cr. 4

Use of the perspective of the life sciences in the study of political behavior, political evolution, political institutions, and contemporary political issues. Offered Yearly.

PS 5630 Statistics and Data Analysis in Political Science I Cr. 4

Introduction to statistical description and inference in the study of politics, administration and public policy. Introduction to statistical analysis using microcomputers. Offered Every Term.

Course Material Fees: \$5

PS 5710 Politics of Europe and the European Union Cr. 3

Comparative analysis of the politics, culture and societies of major European countries; investigation of the formation and operation of the European Union. Offered Irregularly.

PS 5740 Ethnicity: The Politics of Conflict and Cooperation Cr. 4

Current ethnic (racial, linguistic, religious, and cultural) conflicts regionally, nationally and internationally. Introduction to concepts and analytic perspectives for understanding ethnicity as a factor in nation building and maintenance. Offered Yearly.

Equivalent: AFS 5740, PCS 5500

PS 5760 History and Development of Islamic Political Thought Cr. 3

Historical analysis of political Islam through study of the precepts and historical vicissitudes impacting the Islamic world from within and from external forces. Offered Fall, Winter.

Prerequisites: ((NE 2030 with a minimum grade of D-) AND ((NE 3040 with a minimum grade of D-))

Equivalent: NE 5110

PS 5820 International Law Cr. 4

Sources of international law (treaty and custom); institutions of the international system and relationship to domestic law and the courts; state sovereignty; role of United Nations and other international organizations. Application of legal norms to contemporary armed conflicts and human rights catastrophes. Offered Irregularly.

PS 5830 International Conflict and Management Cr. 4

Types of international conflict and such methods of resolution as negotiation, mediation and other third-party procedures. Offered Irregularly.

PS 5850 Human Rights Cr. 4

Theoretical traditions that have inspired the human rights movement; critiques from liberal and conservative perspectives; international human rights treaties and efforts to implement their terms; controversies over cultural relativism, economic and social rights, treatment of women, and the question of non-intervention. Offered Biannually.

PS 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. Offered Irregularly.

PS 5890 Dispute Resolution Cr. 3

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Yearly.

Equivalent: CRJ 5994, PCS 5000, PSY 5710

PS 5991 Directed Study: WSU- Salford Exchange Cr. 3-9

Credit earned through approved upper-division course work at the University of Salford, England, as part of W.S.U.- Salford student exchange program. Offered for undergraduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

PS 5992 Political Science AGRADE Internship Cr. 4

Internship to supplement classroom course work with practical experience gained through substantial involvement in a responsible capacity in a public or quasi-public agency or civic organization. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

PS 5993 Writing Intensive Course in Political Science Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [PS 3000] OR [PS 5640] OR [PS 6650] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

PS 5999 Special Topics in Political Science Cr. 1-4

Topics to be announced in Schedule of Classes . Offered Every Term.

Repeatable for 16 Credits

PS 6010 Political Psychology Cr. 3

Political attitudes and behavior of both ordinary citizens and political elites using theory and research that adopt a psychological perspective. Topics include: political socialization, ideological belief systems, role of mass media in shaping beliefs and attitudes, race and gender stereotypes and their psychological and political consequences, personality and the dynamics of political leadership. Offered Yearly.

Equivalent: PSY 6020

PS 6020 Intergovernmental Relations and American Federalism Cr. 3

Legal, fiscal, political and administrative relationships among governments in the American federal system. Current issues and public policies which affect or are affected by intergovernmental relationships. Offered Biannually.

PS 6050 Class, Race, and Politics in America Cr. 3

Historical and analytic investigation into the role of class and race in American politics. Offered Irregularly.

Equivalent: AFS 6100, HIS 5110, SOC 7330, UP 7030

PS 6070 Labor and American Politics Cr. 3

Role of organized labor in American politics. Historical background, including rise of the UAW and its role in Detroit and Michigan politics. Recent declines; future of organized labor as a force in American politics. Offered Biannually.

PS 6100 Introduction to Graduate Peace and Security Studies Cr. 3

Survey of the peace and security studies fields at the graduate level. Offered for graduate credit only. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PCS 6100

PS 6120 Administrative Law and Regulatory Politics Cr. 3

Constitutional and statutory status of bureaucratic agencies; administrative powers and procedures; judicial review of administrative decisions; Congressional oversight of bureaucracies. Offered Irregularly.

PS 6340 Public Sector Labor Relations Cr. 3

History, present functionings, problems and current controversies surrounding public sector unions. Offered for graduate credit only. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 6440 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3

Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ECO 6650, UP 6550

PS 6455 Discrimination and Fair Housing Cr. 3

Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets (mortgage, insurance) in U.S. metropolitan areas. Offered Irregularly.

Equivalent: AFS 6455, ECO 6455, SOC 6455, UP 6455, US 6455

PS 6640 Statistics and Data Analysis in Political Science II Cr. 3

Modern statistical theory applied to the study of politics, administration, and public policy. Multivariate analysis: multiple regression, logistic regression, path analysis, and factor analysis. Offered Yearly.

Prerequisite: PS 5630

Course Material Fees: \$5

PS 6700 Financial Management for Nonprofit Organizations Cr. 3

Conducting financial management in nonprofit organizations. Topics include: legal responsibilities, cash versus accrual basis accounting, financial statements, fund accounting, fixed assets and depreciation, contributions and budgeting. Offered Yearly.

PS 6710 Introduction to Nonprofit Organizations Cr. 3

Topics include: nonprofit organizations and their history, types and characteristics, goals, external environment, legal framework, governance, leadership, management, and ethics. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PS 6720 Marketing, Development, and Grant Writing for Nonprofit Organizations Cr. 3

How nonprofit organizations locate and secure resources from the private sector, individual philanthropists, foundations, and governments, through marketing, development, and the writing and submission of grants. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

PS 6799 Topics in Comparative Politics Cr. 3-4

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. Offered for graduate credit only. Offered Irregularly.

Prerequisite: PS 2710 with a minimum grade of D-

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PS 6830 Civil War and Conflict Processes Cr. 3

Introduction to literature on civil wars: origins, variables affecting their duration, termination. Peace making and peace agreements studied comparatively. Recent Balkan and African civil wars. Offered Irregularly.

PS 6850 International Organizations Cr. 3

Covers origins and significance of international institutions in world politics. Reviews theoretical approaches to international institutions and global governance, including realist, institutionalist and constructivist. Examines problems of cooperation, delegation of power, disparities of power and the development of robust international regimes in a variety of areas of global governance (security, economic, human rights). Offered Irregularly.

PS 6860 American Foreign Policy Cr. 3

Contending paradigms of realism and liberalism as they relate to programs for American foreign policy. Offered Yearly.

PS 6870 United States Foreign Relations Law Cr. 4

U.S. constitutional law and politics relating to the branches' competencies in conduct of foreign affairs and to incorporation of international law in U.S. courts; war powers, counterterrorism, treaties, human rights litigation, immunities. Offered Biannually.

Prerequisite: PS 5110 with a minimum grade of D- or PS 5820 with a minimum grade of D-

Equivalent: LEX 7888

PS 7020 The New Institutionalism Cr. 3

Applies concepts of rational choice theory to explain the development of political institutions. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7030 American Political Processes Cr. 3

Political socialization, public opinion, and political behavior. Role of political parties and interest groups in the political process. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7040 American Governmental Institutions: Congress and the Courts Cr. 3

Examination of the functions, structure and processes of major American governmental institutions with special emphasis on the Congress and the courts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7045 American Governmental Institutions: The Presidency Cr. 3

Analysis of the American presidency: the presidency and American political development, relationship of the office to other major political institutions, nature and sources of presidential power. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7050 American Political Culture Cr. 3

Analysis of the relationship between belief systems and political action in America. Focus on patterns of social change and conflict management. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7099 Topics in American Politics Cr. 3

Topics chosen by faculty; may include: gender politics, political socialization, voting behavior, political parties, and interest groups. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7210 Approaches to the Study of Urban Politics Cr. 3

Examination of aspects of the urban political process and the research methods used in studying them. Topics include forms of political participation, political structures, community power and influence, strengths and weaknesses of case studies, comparative research, aggregate and individual data. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7240 Urban Public Policy Cr. 3

Overview of major theoretical approaches to understanding urban/regional problems and politics. Focus on following regional issues: interdependence of populations across municipal borders, municipal fragmentation, racial and economic segregation, mobility of labor and capital within and across regions. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7250 Seminar in Urban Administration Cr. 3

Administration in agencies with urban-related policy and program functions. Focus on: public services delivery; urban systems development; program-project design, implementation and evaluation; and intergovernmental relations. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7260 Urban Poverty and Racial Segregation Cr. 3

Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on 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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AFS 6600, ANT 7260, SOC 7350, UP 7260

PS 7300 Public Administration and its Environment Cr. 3

Emergence and evolution of public administration as both a profession and a field of study. The role of public bureaucracies in the political process and efforts to ensure administrative accountability and responsiveness to the democratic system. Administrative relationships with elected executives, legislatures, the judiciary, the media and interest groups. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7310 Public Management Internship Cr. 3

Internship designed to integrate graduate course work with practical knowledge and experience gained from employment in a responsible capacity in a public agency or nonprofit organization. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7320 Organization Theory and Behavior Cr. 3

Study of major theoretical approaches to the structure, functioning and performance of organizations and the behavior of groups and individuals within them. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7330 Public Budgeting and Finance Cr. 3

Processes of public budgeting in the United States; political dynamics of budgetary decision-making; assessment of efforts to change budget systems; basic concepts of fiscal analysis of expenditure patterns and revenue sources. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7340 Public Personnel Management Cr. 3

Examination of the public personnel systems of American governmental units; analysis of current practices and techniques for recruiting, selecting, training, promoting, compensating and removing public employees. Major issues in public personnel management such as collective bargaining, equal employment opportunity, civil service reform and employee productivity and performance. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7350 Managing Public Organizations and Programs Cr. 3

Processes and techniques for managing public organizations and providing public services. Topics include: total quality management, communication and information management, motivation and supervision of subordinates, planning and decision making. Relying on for-profit and nonprofit organizations in service delivery. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7375 Professional Development Seminar Cr. 1-2

Analysis of managerial techniques and practices currently used by administrators in the public sector. Emphasis on managerial applications of information technology, administrative writing and presentation skills, and organizational and behavioral approaches and techniques. Content areas will vary with yearly offerings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7410 Policy Formation and Implementation Cr. 3

Analysis of the processes through which public policy is made and implemented. Examination of the factors that promote or impede the development and realization of rational, effective, and responsive public policy. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7420 Nmtv Iss: Pub Plc Cr. 3

Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7460 Program Evaluation Cr. 3

Theory and practice of program evaluation. Role of program evaluation in the policy process. A number of theories of evaluation will be presented, followed by a discussion of techniques. Topics include total quality management, bench marking; utilization of evaluation. Offered Biannually.

Prerequisite: PS 5630 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

PS 7470 Comparative Public Policy Cr. 3

Provides a comparative introduction to the field of public policy for graduate students. Topics covered include actors and institutions involved in policy making, key concepts, major policy theories and frameworks. After establishing this conceptual foundation, students will explore substantive policy in the U.S. and international context, with attention to the sources of policy differences, such as political institutions, economic conditions and culture. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7480 Policy Analysis for Administration Cr. 3

Introduction to the conceptual foundations of public policy analysis as well as training in various policy analysis tools. Opportunities for students to do policy analysis. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7550 Topics in the History of Political Thought Cr. 3-6

Survey of selected political theorists by period or theme; emphasis on interpretation of major works. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7560 Contemporary Political and Social Theory Cr. 3-6

Analysis of selected major problems, topics, and themes in recent political and social theory. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7580 Political Theory of Public Law Cr. 3

Legal restraints on exercise of public power as conceived in works of early modern theorists (e.g., Machiavelli, Locke, Montesquieu, and Madison), and as applied in constitutional arrangements that have emerged in a range of historical settings. Topics include: role of law in totalitarian political systems; emergency rule; comparative approaches to judicial review. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LEX 7659

PS 7640 Introduction to Game Theory Cr. 3

Standard elements of game theory including some political science applications for illustrative purposes. Emphasis on gaining facility with theoretical concepts and tools. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7660 Research Methods in Policy and Politics Cr. 3

Analytic methods in the study of politics and public policy: formulating researchable problems, use of models, research design, measurement, data collection, and computer-based data analysis. Offered Yearly.

Prerequisite: PS 5630

Restriction(s): Enrollment is limited to Graduate level students.

PS 7710 Seminar in Comparative Politics Cr. 3

Research-oriented seminar in which students learn basic approaches to the study of domestic policy-making through the comparative method, including structural, cultural, institutional, elite, and rational choice approaches. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PS 7711 Advanced Seminar in Comparative Politics Cr. 3-6

Analysis of selected major issues, topics, and debates in the field. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 99 Credits

PS 7720 Comparative Politics of Advanced Industrial Democracies Cr. 3
Provides an in depth at the political structures and institutions of advanced industrial democracies and at the methods, concepts and theories of comparative politics that further our understanding of those countries. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7730 Seminar: Comparative Politics of Developing Countries Cr. 3
Intellectual questions and methodological strategies political scientists are addressing in the study of politics in the developing world. Offered Irregularly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7740 Political Economy Cr. 3
Seminar course; comprehensive survey of political economy: interaction between the government and the economy; microeconomics of politics. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7810 Seminar in World Politics Cr. 3
Major theoretical approaches. Students evaluate the extent to which theses that devolve from realist, idealist, Marxist, culturalist, decision-making, and alternative approaches allow us to explicate phenomena in world politics. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

PS 7811 Advanced Seminar in World Politics Cr. 3
Examination of broad range of substantive topics; student develops ability to conduct independent research in world politics subfield; introduction to alternative theoretical approaches and different methods for conducting empirical research. Major performance objective is student development of a research design. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PS 7995 Directed Study Cr. 1-6
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7997 Research in Political Science Cr. 1-9
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

PS 8000 Readings in Political Science Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PS 8600 Philosophic Problems of Social and Political Inquiry Cr. 3
Required of all doctoral students. Exploration of competing philosophies of science and their relevance to the study of politics. Study of selected problems in political inquiry, including objectivity, commensurability, and progress. Review of disciplinary history and assessments of contemporary approaches to the study of politics. Offered Biannually.
Restriction(s): Enrollment is limited to Graduate level students.

PS 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PS 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PS 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PS 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PS 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PS 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PS 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PS 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PS 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PS 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: \$348.67
Repeatable for 0 Credits

PSC - PHARMACEUTICAL SCIENCES

PSC 3110 Pharmaceutical Biochemistry Cr. 3

Survey of biochemistry for pharmacy students, metabolism, and drug effects in the maintenance of normal human biochemistry and homeostasis. Offered Fall.

Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 4115 Pharmaceutics I Cr. 3

Introduction to pure drug substance formulation into dosage forms and the principles and mechanisms for developing dosage forms for safe and effective use in patients. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 4125 Introduction to Pharmaceutical Sciences: Medicinal Chemistry / Pharmacology / Immunology Cr. 3

Introduction to medicinal chemistry, pharmacology and biotechnology with a focus on drug discovery and drug action. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 4215 Pharmaceutics II Cr. 2

Basic pharmacokinetics: principles of drug administration, distribution, metabolism and excretion (ADME) using different dosage forms, and basics of administration routes. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 4225 Autonomic Pharmacology Cr. 2

The principles of autonomic pharmacology integrated into an understanding of the functioning of the autonomic system; the major target organs and the physiological effects of agonists and antagonists elicited through autonomic receptor subtypes. Offered Winter.

Prerequisite: PSC 4125

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 5115 Pharmacokinetics Cr. 2

Conceptual knowledge-base and practical calculation applications of pharmacokinetic principles. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 5600 Drugs of Abuse Cr. 2

Pharmacology and toxicology, both clinical and animal, associated with recreationally-used agents; treatment of acute and chronic problems associated with these agents; concept of chronic drug administration and abuse as disease state. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 5870 Seminar in Pharmacology Cr. 1

Reports and discussions on current literature and recent advances in the field. Assigned topics presented by students. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 2 Credits

PSC 5990 Directed Study in Medicinal Chemistry Cr. 2

Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 5991 Directed Study in Pharmaceutics Cr. 2

Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 5992 Directed Study in Pharmacology Cr. 2

Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 6285 Pharmacy Seminar Cr. 1

Presentations on topics of current interest on basic science problems relevant to the major discipline of pharmaceutical sciences. Offered Winter.

Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

Equivalent: PSC 7840

PSC 6800 Introduction to Research Cr. 2

Fundamental concepts and resources for responsible conduct of biomedical research and advancing scientific professional development, and data analysis and statistics. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 6890 Toxicology and Adverse Drug Reactions Cr. 3

Study of toxicology and adverse drug reactions including metabolism, hypersensitivity, carcinogenicity, drug-drug interactions, and other factors hazardous to human health. Offered Yearly.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 6910 Pharmaceutical Waste: Environmental Impact and Management Cr. 2-3

Course designed for advanced professional and graduate students with sufficient chemistry and/or biological sciences background who are interested in the environmental impact, management, and regulation of waste pharmaceuticals as emerging issues. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Professional level students.

Equivalent: CE 6910

PSC 7010 Advanced Drug Action and Safety I Cr. 3

Survey of advanced research topics in pharmacology. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7020 Advanced Drug Discovery I Cr. 3

Survey of advanced research topics in medicinal chemistry. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7040 Advanced Drug Formulation and Delivery I Cr. 3

Survey of advanced research topics in pharmaceutics. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7160 Advanced Practice Basic Pharmaceutical Sciences Elective Cr. 3-6

Eight-week rotation in basic science-oriented research laboratory. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 6 Credits

PSC 7600 Drugs of Abuse: Advanced Cr. 2

Pharmacology and toxicology, both clinical and animal, associated with recreationally-used agents; treatment of acute and chronic problems associated with these agents; concept of chronic drug administration and abuse as disease state. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7700 Advanced Drug Action and Safety II Cr. 2

Continuing survey of modern research topics in pharmacology. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7710 Advanced Drug Discovery II Cr. 2

Continuing survey of advanced research topics in medicinal chemistry. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7720 Advanced Drug Formulation and Delivery II Cr. 2

Second course in survey of advanced research topics in pharmaceuticals. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7800 Research Techniques in Medicinal Chemistry Cr. 1-4

Laboratory work employing modern techniques available in medicinal chemistry; application of basic principles to graduate study and research. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 12 Credits

PSC 7810 Research Techniques in Pharmaceuticals Cr. 1-4

Laboratory work employing modern techniques available in pharmaceuticals: application of basic principles to graduate study and research. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 12 Credits

PSC 7820 Research Techniques in Pharmacology Cr. 1-4

Laboratory work employing some of the modern techniques available in pharmacology, including the application of basic principles to graduate study and research. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 12 Credits

PSC 7840 Seminar in Basic Pharmaceutical Sciences Cr. 1-3

Basic science seminar for doctor of pharmacy students or graduate students. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7850 Pharmaceutical Sciences Colloquium Cr. 1

This course is a required seminar course for all graduate students in the Department of Pharmaceutical Sciences. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 10 Credits

PSC 7860 Introduction to Seminar Cr. 1

A required seminar course for all first year graduate students in the Department of Pharmaceutical Sciences. Students will be required to present a seminar on their research progress during their first year in the program. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 4 Credits

PSC 7870 Second Year Seminar Cr. 1

A required seminar course for all second year PhD students in the Department of Pharmaceutical Sciences. Students will be required to present a seminar on a topic unrelated to their research. Offered Fall, Winter.

Prerequisites: ([PSC 7860 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSC 7880 Third Year Seminar Cr. 1

A required seminar course for all third year PhD students in the Department of Pharmaceutical Sciences. Students will be required to present a seminar on their research. Offered Fall, Winter.

Prerequisites: ([PSC 7870 with a minimum grade of C])

PSC 7999 Master's Essay Direction Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 8650 Special Topics in Medicinal Chemistry Cr. 2

Recent developments in medicinal chemistry. Topics under investigation and of current interest offered in different semesters. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 6 Credits

PSC 8660 Special Topics in Pharmaceuticals Cr. 2

Recent developments in pharmaceuticals. Topics under investigation and of current interest offered in different semesters. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 6 Credits

PSC 8670 Special Topics in Pharmacology Cr. 2

Recent developments in pharmacology. Topics under investigation and of current interest offered in different semesters. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 6 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 8 Credits

PSC 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 12 Credits

PSC 9991 Doctoral Candidate Status I: Dissertation Research and

Direction Cr. 7.5

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9992 Doctoral Candidate Status II: Dissertation Research and

Direction Cr. 7.5

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9993 Doctoral Candidate Status III: Dissertation Research and

Direction Cr. 7.5

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9994 Doctoral Candidate Status IV: Dissertation Research and

Direction Cr. 7.5

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$348.67

Repeatable for 0 Credits

PSL - PHYSIOLOGY

PSL 5010 Individual Research I Cr. 2-5

Direct participation in laboratory research in the physiological sciences under the supervision of a departmental faculty advisor. Introduction to experimental protocol and current related scientific literature. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior, Senior or Post Bachelor.

Repeatable for 5 Credits

PSL 5680 Basic Endocrinology Cr. 3

Basic description of the human endocrine system, the endocrine control of several physiologic processes (growth, development, metabolism and reproduction), and a description of common endocrine disorders. Offered Fall.

Prerequisite: BIO 3200 with a minimum grade of C-

Equivalent: BIO 5680

PSL 6010 Physiology of Exercise II Cr. 3

Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Fall.

Prerequisite: KIN 3570 with a minimum grade of C-

Restriction(s): Enrollment limited to students with a class of Unranked Undergrad, Freshman, Sophomore, Junior, Senior or Post Bachelor.

Equivalent: KIN 6310, PT 6310

PSL 6300 Biotechnology: Techniques and Applications Cr. 2

Various biotechnical methodologies currently used in research and industry; application of these methodologies in scientific inquiries. Offered Fall.

PSL 6310 Biotechnology: Techniques and Applications Lab Cr. 2-5

Students choose one of the biotechnology techniques discussed in PSL 6300 and spend the semester in an active research laboratory learning the practice of the technique through hands-on experience. Offered Winter.

Prerequisites: (May be taken concurrently: [PSL 6300 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7010 Basic Graduate Physiology Lecture I Cr. 4

Introduction to basic human physiology. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7011 Basic Integrative Graduate Physiology I Cr. 4

Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7020 Basic Graduate Physiology Laboratory I Cr. 2

Introductory laboratory exercises to measure cell and membrane function; neuronal activity; electrophysiology; and hormonal actions. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$50

PSL 7030 Basic Graduate Physiology Lecture II Cr. 4

Functional mechanisms of the human body. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7031 Basic Integrative Graduate Physiology II Cr. 4

Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7040 Basic Graduate Physiology Laboratory II Cr. 2

Experimental physiology of organ systems. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$50

PSL 7060 Current Literature in Physiology Cr. 1

Students are required to present published papers at least once each semester, and must attend all class meetings. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7215 Nanobioscience Cr. 3

Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PHY 7215

PSL 7400 Advanced Respiratory Physiology Cr. 2

Advanced topics in respiratory physiology; guidance in critical reading and discussion of the literature. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate or Medical level students.

PSL 7550 Advanced Renal Physiology Cr. 2

A detailed study of the physiological mechanisms promoting homeostasis of the body fluid volumes and ionic composition in the mammal. Offered Biannually (Fall).

Prerequisites: ([PSL 7030 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7600 Advanced Cardiovascular Physiology Cr. 2

Basic principles of heart dynamics and control techniques in measurement of cardiac function. Offered Fall.

Prerequisites: ([PSL 7030 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Physiology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

PSL 7610 Biological Basis of Sleep Cr. 2

Basic physiology of human sleep; role of sleep in cognitive and physical performance; sleep disorders (such as sleep apnea, narcolepsy). Offered Biannually (Winter).

Prerequisites: ([PSL 7030 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7640 Cell and Molecular Physiology Cr. 3

Lecture and discussion. Research in atomic force microscopy, molecular structure, exocytosis, insulin signal transduction, glucose transport, estrogen receptors, ion channels, Na, K-ATPase, Na/Ca exchanger, hormonal regulation of ion transport. Offered Biannually (Winter).

Prerequisites: ([PSL 7010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7660 Neurophysiology Cr. 3

Anatomy and physiology of the neuron and the mammalian nervous system. Correlations of central nervous system functions and electrophysiology. Offered Biannually (Fall).

Prerequisites: ([PSL 7010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7680 Endocrinology Cr. 4

A detailed emphasis on current research. Student participation encouraged; each student required to present a one hour lecture. Offered Winter.

Prerequisites: ([PSL 7010 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7690 Principles and Techniques of Reproductive Biology Cr. 3

Principles and techniques in reproduction including endocrinology, gametogenesis, fertilization, implantation, embryogenesis, stem cell determination, pregnancy and parturition. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7700 Embryonic Stem Cell Biology Cr. 3

Methods involved in production and utilization of embryonic stem cells. Lectures supplemented with text, reviews, and recent papers. Offered Biannually (Winter).

Prerequisite: PSL 7690

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7710 Disease States and Reproductive Processes Cr. 1

Diseases and areas in reproductive medicine where additional research is required. Students accompany clinicians during rounds in hospital and out-patient clinics. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Medicine; enrollment is limited to Graduate level students.

PSL 7730 Reproductive Sciences: Teratology Cr. 3

Principles of the science of birth defects; focus on impact of environmental poisons, medicines, and drugs of abuse on developing germ cells, embryos and fetuses. Roles of pharmacological/toxicological, physiological (maternal, placental, and fetal), genetic and nutritional factors in the teratogenic response are examined. Texts and current readings. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7775 Current Research Topics in Reproductive Science Cr. 1

Lectures covering current topics in reproductive biology, health, and medicine. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7825 Membrane Physiology: Protein Transport, Lipid Metabolism and Human Diseases Cr. 2

Covers the basic concepts of membrane transport in the mammalian secretory pathway with an emphasis on the dysregulation of key transport steps and the defective mutations of key regulators which lead to human diseases (e.g. neurodegenerative diseases, diabetes and coronary heart diseases). Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7880 Special Problems in Physiology Cr. 1-8

Topics individually arranged with faculty. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

PSL 7890 Seminar Cr. 1

For graduate students in physiology. Participation in weekly departmental seminars. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

PSL 7910 Molecular Male Reproduction and Chromatin Cr. 1

Students write topic-specific essays. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PSL 7996 Arranged Research Cr. 1-15

Graduate level experiences in research techniques. Special research topics in specified areas arranged with individual faculty member. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 15 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PSL 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PSL 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PSL 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PSL 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

PSY - PSYCHOLOGY

PSY 1010 Introductory Psychology Cr. 4

Grade of C or better required for psychology majors. Introduction to the science of behavior. Principles, concepts, and theories of human thought and action. Selected concepts illustrated through laboratory experiments. Recommended for students intended to major in psychology. Meets General Education Laboratory Requirement. No credit after PSY 1020. Offered Every Term.

PSY 1020 Elements of Psychology Cr. 3

Principles, theories and applications of psychological knowledge. Intended for non-psychology majors. No credit after PSY 1010. Offered Every Term.

PSY 1030 Introductory Psychology Laboratory Cr. 1

Principles, concepts and theories of human thought and behavior illustrated through laboratory experiments. Required of psychology majors who have AP Psych credit or took PSY 1020 to complete Introductory Requirement; Grade of C or better required for psychology majors. No credit after PSY 1010. Offered Every Term.

Prerequisites: ((PSY 1020 with a minimum grade of C-))

Restriction(s): Enrollment is limited to Undergraduate level students.

PSY 2080 Introduction to Drugs, Behavior, and Society Cr. 3

Introduction to drugs and their actions. Emphasis on psychoactive drugs, their effects, and the consequences of their use and misuse to the individual and society. Offered Every Term.

Prerequisites: ((PSY 1010 with a minimum grade of D-) OR [PSY 1020 with a minimum grade of D-])

PSY 2100 Psychology and the Workplace Cr. 3

Psychology applied to workplace issues. Major topics include organizational staffing, employee training and development, organizational leadership, employee attitudes and motivation, organizational culture and climate, and employee health and well-being. Offered Every Term.

Prerequisites: ((PSY 1010 with a minimum grade of D-) OR [PSY 1020 with a minimum grade of D-])

PSY 2300 Psychology of Everyday Living Cr. 4

Applications of psychological principles to everyday life. How research can be used to guide positive self-change in various contexts (e.g., stress, psychological problems, personality, persuasion, attitudes). Offered Every Term.

Prerequisites: ((PSY 1010 with a minimum grade of D-) OR [PSY 1020 with a minimum grade of D-])

PSY 2400 Developmental Psychology Cr. 4

Facts, principles, theories of psychological development throughout the lifespan. Development of intellectual, emotional, perceptual, linguistic, and social behavior. Developmental trends. Offered Every Term.

PSY 2410 Health Psychology Cr. 4

Clinical, social, developmental, and biopsychosociological theory and research on relationship of psychological and behavioral factors to physical health and well-being. Positive and negative health behaviors, stress and coping, social relations and social support, psychoneuroimmunology, patient-practitioner interaction and health utilization, management of chronic illness. Offered Every Term.

Prerequisites: ((PSY 1010 with a minimum grade of D-) OR [PSY 1020 with a minimum grade of D-])

PSY 2450 Developmental Psychology Service Learning Laboratory Cr. 1

The laboratory involves a project related to development that serves a community need and is conducted within the community. Participation in the project is intended to result in deeper learning of the course content in PSY 2400. Offered Fall.

Prerequisites: ((PSY 1010 with a minimum grade of D- and PSY 1010) OR [PSY 1020 with a minimum grade of D- and PSY 1020]) AND (May be taken concurrently: [PSY 2400])

PSY 2600 Psychology of Social Behavior Cr. 4

Social behavior of the individual as influenced by the group. Particular attention given to social perception, motivation, and learning; attitudes and values; dynamics of social groups. Offered Every Term.

Prerequisites: ((PSY 1010 with a minimum grade of D-) OR [PSY 1020 with a minimum grade of D-])

PSY 2650 Philosophy of Psychology Cr. 3

Central examples of these questions and proposed answers: Could we build an intelligent computer? Is our mind just a piece of software that our brain is running? Is there a "language of thought"? Are we much less rational than we think? How can we understand each other's minds? Can there be laws in psychology? What is consciousness, and can it be studied scientifically? We will address these and other questions via the work of philosophers, psychologists and cognitive scientists. Offered Winter.

Equivalent: PHI 2650

PSY 3010 Statistical Methods in Psychology Cr. 4

Primarily for psychology majors. Principles and computational methods that apply to quantitative aspects of psychological procedure; elementary correlation theory and prediction, sampling problems, tests of hypotheses, elementary test theory, interpretation of results. Offered Every Term.

Prerequisites: ((PSY 1010 with a minimum grade of C) OR [PSY 1030 with a minimum grade of C]) AND ((MAT 0993 with a minimum grade of C) OR [ACT Math \geq 25 (MC = 100) with a test score minimum of 100] OR [Math Proficiency P=100/F=000 with a test score minimum of 100] OR [MC Met: Prior WSU Course Work with a test score minimum of 100] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 30000-99999] OR [SAT Math \geq 580 (MC = 100) with a test score minimum of 100] OR [STA 1020 with a minimum grade of C] OR [BA 2300 with a minimum grade of C] OR [Michigan Transfer Agreement with a test score minimum of 100]) AND ((PSY 3020 with a minimum grade of C))

PSY 3020 Research Methods in Psychology Cr. 4

Basic principles of research design in psychology and measurement of psychological constructs. Offered Yearly.

Prerequisites: ((PSY 1010 with a minimum grade of C and PSY 1010 with a minimum grade of C) OR [PSY 1030 with a minimum grade of C and PSY 1030 with a minimum grade of C]) AND ((MAT 0993 with a minimum grade of C) OR [MC Met: Prior WSU Course Work with a test score minimum of 100 and ACT Math \geq 25 (MC = 100) with a test score minimum of 100] OR [Math Proficiency P=100/F=000 with a test score minimum of 100 and Math Proficiency P=100/F=000 with a test score minimum of 100] OR [ACT Math \geq 25 (MC = 100) with a test score minimum of 100 and MC Met: Prior WSU Course Work with a test score minimum of 100] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 30000-99999 and Math Permit to Reg - (L00-L03) with a test score minimum of 30000-99999] OR [MAT 1000 with a minimum grade of C and SAT Math \geq 580 (MC = 100) with a test score minimum of 100] OR [STA 1020 with a minimum grade of C] OR [BA 2300 with a minimum grade of C] OR [Michigan Transfer Agreement with a test score minimum of 100])

PSY 3040 Psychology of Perception: Fundamental Processes Cr. 3

Fundamental theories, concepts, and empirical studies of basic sensory processes and the perception and organization of sensory phenomena. Offered Yearly.

PSY 3060 Psychology of Learning and Memory: Fundamental Processes Cr. 3

Fundamental theories, concepts, and empirical findings in field of learning. Offered Yearly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3080 Cognitive Psychology: Fundamental Processes Cr. 3

Fundamental theories, concepts, and empirical findings in study of human cognition. Topics include: thinking, problem solving, language comprehension and production, memory and attention. Offered Yearly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

Equivalent: LIN 3080

PSY 3120 Brain and Behavior Cr. 3

Introduction to the brain and its influence over behavior. Structure and function of the nervous system, neural communication, and neural mechanisms of higher nervous system functions and dysfunctions.

Topics include: biological basis of sleep, sex, learning, memory, language, schizophrenia, and depression. . No credit after PSY 5050. Offered Every Term.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3200 Motivation, Feeling and Emotion Cr. 3

Experimental findings in psychological and allied fields on topics of motivation, feeling, and emotion; evaluation of classical theories and an attempt to develop a theoretical approach based on factual knowledge. Offered Irregularly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3250 Psychology of Women Cr. 3

Scientific issues relating to the psychological understanding of women: gender identity, psychobiology, mental health, achievement motivation, role conflict, psychology of career choice. Offered Every Term.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3310 Abnormal Psychology Cr. 4

Nature and causes of various forms of abnormal behavior, including schizophrenia, depression, and neurosis, viewed from psychological, biological, cultural, developmental and historical perspectives. Diagnosis and treatment of pathological behavior. Offered Every Term.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3350 Psychology of Personality Cr. 3

An examination of the major approaches to the study of personality. Current psychological findings in the field of personality and their implications for psychotherapy and assessment. Offered Every Term.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3380 Human Sexuality Cr. 3

Biological, psychological and socio-cultural aspects of human sexuality. Topics include anatomy and development, sexual behavior, and cultural influences. Offered Every Term.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3430 Infant Development Cr. 3

Development of the infant from conception through the toddler years. Physical, motor, perceptual, cognitive, language, social and emotional development. Current findings and their implications for parenting, programming and care. Offered Yearly.

Prerequisites: ([PSY 2400 with a minimum grade of D-])

PSY 3440 Psychology of Child Behavior and Development Cr. 3

Developmental processes in childhood; language acquisition, cognitive development, development of peer-peer interactions. Offered Yearly.

Prerequisites: ([PSY 2400 with a minimum grade of D-])

PSY 3460 Psychology of Adolescent Behavior and Development Cr. 3

Factors that promote the emergence of new relationships with parents, changes in peer relationships, increased independence, preparation for marriage and parenthood, and socioeconomic integration into the larger society. Biological and anthropological perspectives on sex roles. Offered Yearly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 3480 Parent-Child Interaction Across the Lifespan Cr. 3

Theory and research on interactions between parents and children. Focus on normal developmental concerns, infancy through adulthood: discipline, sibling rivalry, sex-role identification, parental support. Offered Yearly.

Prerequisites: ([PSY 2400 with a minimum grade of D-])

PSY 3490 Psychology of Adult Development and Aging Cr. 3

The adulthood and aging years from a developmental perspective, including: intelligence, memory, personality, and social behavior. Offered Irregularly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-]) AND ([PSY 2400 with a minimum grade of D-])

PSY 3993 Laboratory in Experimental Psychology Cr. 2

Lab investigations of perceptual, sensory, learning, and cognitive processes. Offered Spring/Summer.

Prerequisites: ([PSY 3010 with a minimum grade of D-]) AND (May be taken concurrently: [PSY 3040 with a minimum grade of D-] OR [PSY 3060 with a minimum grade of D-] OR [PSY 3080 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$15

PSY 4310 Psychological Disorders of Children Cr. 3

Points of view, methods of study and research findings regarding psychopathology in children. Offered Fall.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 4320 Introduction to Clinical Psychology Cr. 3

An introduction to the methods, rationale, and empirical foundations of clinical psychology. Issues in the assessment and treatment of psychopathology. Offered Winter.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 4990 Directed Study and Research Cr. 2-4

Library or laboratory study of an advanced problem in psychology under the guidance of a faculty member. Offered Every Term.

Repeatable for 9 Credits

PSY 4991 Honors Directed Study Cr. 2-4

Honors library or laboratory study of advanced problem in psychology under guidance of a faculty member. Offered Every Term.

Repeatable for 9 Credits

PSY 4993 Field Study Cr. 3

Assignment to a hospital, clinic or other agency under faculty supervision. Term paper on observations made in the field. Agency placement contingent upon appropriate background and training in psychology. Offered Fall, Winter.

Prerequisite: PSY 1010 with a minimum grade of C- or PSY 1030 with a minimum grade of C- and PSY 3310 with a minimum grade of C-

Repeatable for 6 Credits

PSY 4994 Special Projects Cr. 1-4

Departmental assignment to special projects for advanced students. Offered Every Term.

Prerequisite: PSY 1010 with a minimum grade of C- or PSY 1030 with a minimum grade of C-

Repeatable for 12 Credits

PSY 4995 Special Topics in Psychology Cr. 3

Topics of current interest to be announced in Schedule of Classes . Offered Irregularly.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

Repeatable for 6 Credits

PSY 4998 Senior Thesis Cr. 3

Research leading to the design and execution of a senior honors thesis in psychology. Offered Every Term.

Prerequisite: PSY 3010 with a minimum grade of C- and PSY 3020 with a minimum grade of C- and PSY 3993 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major in Psychology Honors.

PSY 5020 Honors Research in Psychology Cr. 3

Critical evaluation of scientific literature and the planning and development of psychological research proposals. Offered Fall, Winter.

Prerequisites: ([PSY 3010 with a minimum grade of D-]) AND ([PSY 3020 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major in Psychology Honors.

PSY 5040 Cognitive Neuroscience Cr. 3

Brain processes and brain structures that support them, framed in terms of theoretical models and empirical evidence from brain imaging techniques and patient populations. Topics include attention, memory, space, language, and decision-making. Offered Yearly.

Prerequisites: ([PSY 3080 with a minimum grade of D-] OR [PSY 3120 with a minimum grade of D-])

PSY 5050 Physiological Psychology Cr. 3

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. Offered Fall, Winter.

Prerequisites: ([PSY 1010 with a minimum grade of D-] OR [PSY 1020 with a minimum grade of D-])

PSY 5080 Cellular Basis of Animal Behavior Cr. 3

Relationship between behavior and neuroscience using a variety of animal models, each examined from the level of natural behavior progressively to the cellular level. Topics include: sensory systems, motor behavior, and learning. Offered Irregularly.

Equivalent: BIO 5080

PSY 5100 Applied Statistics in Psychology Cr. 4

General linear model, coding techniques, multiple correlation and regression, analysis of variance and covariance, planned and post hoc tests, use of statistical computer packages. Offered Winter.

Prerequisites: ([PSY 3010 with a minimum grade of D-])

PSY 5700 The Psychology of African Americans Cr. 4

Methodological approaches to and theories of Black behavior and personality development. Topics include: race and pathology, life-span and psycho-sexual development, personality formation, social and environmental stress and adaptation. Offered Every Term.

Equivalent: AFS 5700

PSY 5710 Dispute Resolution Cr. 3

Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Yearly.

Equivalent: CRJ 5994, PCS 5000, PS 5890

PSY 5900 Culture, Language and Cognition Cr. 3

Systematic investigation of the relationships among, language, cognition and culture, including issues relating to human universals, cross-cultural concept formation, metaphor, classification and the evolution of cognition and language. Offered Biannually (Winter).

Prerequisites: ([ANT 3310] OR [LIN 3310] OR [PSY 3080] OR [LIN 3080] OR [ANT 5320] OR [LIN 5320])

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Equivalent: ANT 5900, LIN 5900

PSY 6010 Family Centered Collaboration in Early Childhood Intervention and Special Education Cr. 3-4

Theories, concepts and practices of family centered intervention services for young children with special needs. Team-building and cross-disciplinary communication and collaboration with families. Offered Fall.

Equivalent: ELE 6010, SW 6010

PSY 6020 Political Psychology Cr. 3

Political attitudes and behavior of both ordinary citizens and political elites using theory and research that 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. Offered Yearly.

Prerequisites: ([PSY 1010 with a minimum grade of D-])

Equivalent: PS 6010

PSY 6200 Development of Memory Cr. 3

Major theoretical models of memory development will be discussed and used to explore various aspects of the memory process from infancy to adulthood. Offered Irregularly.

Prerequisites: ([PSY 3080 with a minimum grade of D-] OR [PSY 2400 with a minimum grade of D-])

PSY 6500 Advanced Psychological Statistics Cr. 3

Review of core statistical procedures; in-depth exploration of concepts of correlation and regression. Brief review of descriptive statistics and methods of statistical inference. Statistical software will be introduced and used. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6510 Organization Theory Cr. 3

Work organization theories, and history of social modeling; classical, neoclassical, and open system of contingency theories. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6520 Organizational Behavior Cr. 3

Employee motivation, job attitudes, leadership and management development; related aspects of organizational behavior, design and development. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6535 Psychometric Theory Cr. 3

Development, validation, and use of psychological tests and other psychological instruments. Origins and value of psychological testing. Offered Winter.

Prerequisites: ([PSY 6500 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6550 Training and Employee Development Cr. 3

Theory and practice of organizational training, employee development, and management development; establishment of performance standards, performance appeal process, evaluation of training and development programs. Offered Irregularly.

Prerequisites: ([PSY 2100 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6570 Research Methods in Industrial/Organizational Psychology Cr. 3

Field and lab research methods for workplace settings. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6710 Psycholinguistics Cr. 3

Theory and research in various topics in psycholinguistics, including language development, speech perception and production, and language comprehension. Offered Irregularly.

Equivalent: LIN 6710

PSY 6995 Advanced Special Topics Cr. 3

Topics to be announced in Schedule of Classes . Offered Irregularly.

Restriction(s): Enrollment limited to students with a class of Unranked Grad or Senior.

Repeatable for 6 Credits

PSY 7010 History and Systems of Psychology Cr. 2-3

History and philosophical ideas that have influenced development of the scientific field of psychology. Core issues in philosophy of science; their integration with major theories, philosophies and trends in development of modern psychology. Offered Fall, Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7020 An Integrative Approach to Social, Cognitive and Developmental Psychology Cr. 3

Integration of three major topics in psychology. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7030 Evolutionary Psychology of the Emotions Cr. 3

Functional analysis of basic human emotions: their elicitors, affects, expressions, visceral changes, overt behaviors, neural bases, development, and normal and pathological variation. No credit for PSY 7030 after PSY 5030. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7080 Human Cognition Cr. 3

Unified approach to human cognitive activity, including perception, attention, memory, language, concepts, and problem solving. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7090 Theories of Learning Cr. 3

Systematic examination of learning theories. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7120 Biological Basis of Behavior Cr. 3

Major literature relating the anatomy of the nervous system to psychological processes. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7140 Psychophysical and Scaling Methods Cr. 3

Major psychophysical methods; data analysis and written reports. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7150 Quantitative Methods in Psychology I Cr. 4

Introduction to statistical inference for psychologists. Bivariate measures of relationship and associated statistical tests: chi square, t-test, F test and selected rank order tests. Research methods including randomized designs, repeated measures, counter-balancing and Latin square designs, and quasi-experimental designs common to applied social science research, such as matched case controls, pre- and post- designs, and interrupted time-series. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7160 Quantitative Methods in Psychology II Cr. 4

Multiple regression and analysis of covariance. Psychometric theory and psychological measurement. Offered Winter.

Prerequisites: ([PSY 7150 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7200 Psychological Assessment I Cr. 4

Psychometric theory and application emphasizing reliability, validity, utility and interpretation of selected intelligence, achievement, and objective personality tests, including the WAIS-IV and MMPI-2. Required lab section includes individual supervision on interviewing, testing, and report writing. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7210 Psychological Assessment II Cr. 4

Half of the course covers child intellectual and academic assessment, based on measures such as the WISC-IV and WIAT-II. The other half addresses adult personality assessment, based on measures such as the Rorschach and TAT. Emphasis on providing feedback and writing reports for clients. Required lab section includes individual supervision on interviewing, testing and report writing. Offered Winter.

Prerequisites: ([PSY 7200 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7230 Assessment Practicum Cr. 1

Students learn to conduct psychological assessments of adults and children. Skills taught include how to: a) generate clinical hypotheses; b) interview patients; c) select, administer, score, and interpret a range of psychological measures; d) integrate findings to answer assessment questions; e) write assessment reports; f) give feedback; and g) both receive and provide supervision. Unique aspects of assessing specific clinical conditions or disorders will be covered. Students will present cases based on assessments they conduct in the departmental training clinic. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

PSY 7240 Ethics, Professional Issues, and Diversity Cr. 1

Three separate sections of this course focus on ethical principles as applied to practice, research and teaching, human diversity. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

Repeatable for 3 Credits

PSY 7250 Theory of Personality Cr. 3

Major approaches to the study of personality. Current psychological research and issues in the field; implications for psychotherapy and assessment. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy, Master of Arts or Master of Science degrees.

PSY 7300 Psychopathology Cr. 3

Basic psychological concepts of psychopathology with a focus on adult disorders. Current theory and research and their implications for clinical practice. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7310 Developmental Psychopathology Cr. 3

Processes of development as they relate to emergence and course of psychopathology from conception through young adulthood; theory and research on major forms of psychopathology with childhood and adolescent onset. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7330 Clinical Neuropsychology Cr. 3

History of the development of clinical neuropsychology. Current perspectives of theory and empirical foundations of neuropsychological assessment. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7340 Neuropathology and Behavior Cr. 3

Discussion of the current state of neuropathology and its cognitive consequences. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7370 Psychological Interventions I Cr. 3

Survey of intervention development, theory and research; focus on empirically-supported individual psychotherapy for adults and evidenced-based therapeutic processes. Offered Fall.

Prerequisites: ((PSY 7300 with a minimum grade of C))

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7380 Psychological Interventions II Cr. 3

Survey of intervention development, theory and research; focus on evidence-based interventions for children and adolescents as well as systems (families, groups, communities). Offered Winter.

Prerequisites: ((PSY 7370 with a minimum grade of C))

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7400 Introduction to Life-Span Developmental Psychology Cr. 3

Theory, methods and selected content areas; cognitive and social development as they relate to the entire life cycle. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7420 Attachment Relationships Across the Lifespan Cr. 3

Current theory and research on human attachment relationships across the lifespan. Major research paradigms; application of attachment for parenting, childcare, intervention, and therapy. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7425 Psychology of Infant Behavior and Development Cr. 3

Prenatal development and infancy through the toddler years. Major theoretical positions and research relating to motor, perceptual, cognitive, language, social, and emotional development. Implications for parenting, programming, and care. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7430 Developmental Assessment of Infants and Toddlers Cr. 3

Overview of assessment methods; training in administration of the Bayley Scales of Infant development. No credit after PSY 6470. Offered Yearly.

Prerequisite: PSY 6420 with a minimum grade of C or PSY 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7440 Cognitive Development Cr. 3

Current theoretical perspectives and related research on cognitive development in childhood; topics include cognition, memory, concepts, and language. Offered Irregularly.

Prerequisite: PSY 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7450 Social Development Across the Life-Span Cr. 3

Recent perspectives on the psychological and environmental factors affecting social development across the life-span. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7470 Interdisciplinary Research Methods in Social, Cognitive and Developmental Psychology Cr. 3

Required of all first-year students in cognitive, developmental, and social psychology. Advanced survey of research design methods and issues across a broad array of social and behavioral fields, including cognitive, developmental, social, and personality psychology. Also covers Master's thesis development and ethical and professional issues. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7500 Research Methods in Industrial/Organizational Psychology Cr. 3

Analysis of methodology and research design problems in the field of industrial psychology; discussion of professional and ethical problems. Offered Yearly.

Prerequisite: PSY 7150 with a minimum grade of C

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7510 Criterion Development and Performance Evaluation: Theory and Research Cr. 3

Nature and kinds of criteria of job performance; development and measurement of criteria; problems and issues in performance evaluation. Offered Yearly.

Prerequisite: PSY 7160 (may be taken concurrently) or PSY 7500 (may be taken concurrently)

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7520 Selection and Placement: Theory and Research Cr. 3

Principles in development and evaluation of employee selection procedures; methods for establishing job-relatedness; problems and issues in evaluation and use of employee selection procedures. Offered Yearly.

Prerequisite: PSY 7510

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7560 Leadership and Executive Development: Theory and Research Cr. 3

Selected leadership research studies; theories relating to leadership; principles of training and development. Offered Yearly.

Prerequisite: PSY 7500

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7570 Industrial Motivation and Morale: Theory and Research Cr. 3

Meaning of motivation and incentive as used in industry; research methods for study of motivation, job satisfaction, and morale; research data and interpretations in theoretical frameworks. Offered Yearly.

Prerequisite: PSY 7500

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7590 Industrial and Organizational Psychology Cr. 3

Lecture, discussion, analysis of articles and chapters, in-class exercises. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7620 Social Psychology: Research and Theory Cr. 3

Graduate-level introduction to the major theoretical and research areas of social psychology; current issues and research. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7645 Social Psychology of Close Relationships Cr. 3

Social Psychological theory and research that examines the dynamics of close relationships, including relationship formation, maintenance, enhancement, and dissolution. Offered Biannually.

Prerequisite: PSY 7620

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 7745 Job Analysis and Performance Criteria Cr. 3

Job analysis methods, criterion development, and performance appraisal. Offered Fall.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy; enrollment is limited to Graduate level students.

PSY 7750 Organizational Staffing Cr. 3

Recruitment, screening, and personnel selection. Offered Winter.

Prerequisites: ([PSY 7745 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy; enrollment is limited to Graduate level students.

PSY 7770 Testing in the Workplace Cr. 3

Test development; in-depth discussion of existing tests. Offered Spring/Summer.

Prerequisites: ([PSY 6500 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy; enrollment is limited to Graduate level students.

Course Material Fees: \$100

PSY 7780 Industrial/Organizational Psychology Cr. 1

Approved internship field placement for a period of one semester to two years. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy; enrollment is limited to Graduate level students.

Repeatable for 4 Credits

PSY 7790 Capstone Course Cr. 3

Special topics in I/O psychology. Students write a major paper or conduct an individual project. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy; enrollment is limited to Graduate level students.

PSY 7990 Directed Study Cr. 1-9

For students who wish further study of technical literature of a problem systematically reviewed in a preceding course. Intensive and systematic reading of original literature (particularly journals) dealing with topic or problem. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PSY 7991 Current Topics in Behavioral Neuroscience Cr. 1

Discussion of current papers in the field. Offered Fall, Winter.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 2 Credits

PSY 7997 Research Problems Cr. 1-8

Original research under direction of departmental staff. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 32 Credits

PSY 7998 Field Practicum in Psychology Cr. 1-6

Practicum experience in an approved training facility. Supervision by faculty members. Only four credits count toward Ph.D. degree. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 12 Credits

PSY 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

PSY 8000 Clinical Internship Cr. 1

Approved placement in an APA accredited internship for a one- to two-year period. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

PSY 8050 Cognitive Neuroscience Cr. 3

Concepts and methods used to study neurobiological basis of cognition, covering brain systems involved in perception, attention, memory, language, and decision making, as well as life-span development of brain, cognition and psychopathology. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8060 Functional Neuroanatomy Cr. 4

Anatomical features of the human nervous system; emphasis on relationship between neural structure and behavior. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Course Material Fees: \$15

PSY 8065 Neurophysiology and Neural Plasticity Cr. 3

Physiological and molecular properties of neurons and the relationship of neural plasticity to behavior and development. Offered Fall.

Prerequisites: ([PSY 8060 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8070 Psychopharmacology Cr. 3

Psychological and biological bases of psychopharmacology; emphasis on preclinical models and development of treatments for psychological disorders. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8140 Meta-Analysis Cr. 2-3

Use of quantitative techniques for summarizing research results in psychology. Offered Spring/Summer.

Prerequisites: ([PSY 7160 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8150 Multivariate Analysis in Psychology Cr. 4

Extension of the general linear model to multivariate statistical techniques, including: exploratory factor analysis and principal components analysis, confirmatory factor analysis, discriminant function analysis, canonical correlation analysis, and multivariate analysis of variance. Offered Fall.

Prerequisite: PSY 7150

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8170 Structural Equation Modeling Cr. 3

Practical introduction to structural equation modeling. Offered Winter.

Prerequisites: ([PSY 8150 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8300 Health Psychology I Cr. 3

Theoretical and empirical review of major topics in behavioral approaches to health and illness, including: 1) theories of health behavior and behavior change; 2) psychological impact of acute and chronic physical illness; and 3) health care utilization including health disparities, patient-provider communication, and psychosocial factors that affect adherence. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8310 Health Psychology II Cr. 3

Applied issues in health psychology and behavioral medicine. Focus on research and practice related to assessment and intervention with medical populations and changing health behavior. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8320 Biobases of Health Psych Cr. 3

Offered Biannually.

Prerequisites: ([PSY 8300 with a minimum grade of C] OR [PSY 8310 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PSY 8340 Clinical Neuropsychological Assessment Cr. 3

Review of principles and literature on neuropsychological assessment, common neuropsychological tests and test batteries, in context of actual clinical cases. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8350 Community Psychology Cr. 3

Current findings, theory, and research in the field of community psychology. Emphasis on current urban problems. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8390 Therapeutic Intervention Practicum Cr. 1

Students learn to conduct evidence-based psychological interventions with adults, children, couples, and families. Skills taught include how to: a) develop case conceptualizations based on different theoretical models; b) apply techniques from motivational, cognitive-behavioral, relational, psychodynamic, and other therapies; c) develop and maintain the therapeutic alliance; d) track outcomes and modify approach as needed; e) terminate cases; and f) both receive and provide supervision. Unique aspects of intervening for specific clinical conditions or disorders will be covered. Students will present cases based on interventions they conduct in the departmental training clinic. Offered Every Term.

Prerequisites: ([PSY 7380 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

PSY 8400 Current Issues in Developmental Psychology Cr. 3

Integrative seminar in current theoretical and empirical issues. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PSY 8440 Developmental Neuropsychology Cr. 3

Neurobiology of development. Topics include: neuroplasticity throughout the life span, maturation of the brain and neural connectivity, neurodevelopment of behavioral, emotional, social and cognitive functions. This course will bridge human behavioral and animal models to illustrate the dexterity and limitations of available scientific methods to study developmental neuropsychology. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

PSY 8500 Seminar in Industrial/Organizational Psychology Cr. 1-3

For industrial/organizational psychology students. Current topics in industrial psychology; content varies. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 15 Credits

PSY 8560 Models and Methods in Psychopharmacology Cr. 3

Psychological and biological bases of psychopharmacology; emphasis on methods, models and theories in basic preclinical research. Offered Biannually.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8600 Seminar in Experimental Social Psychology Cr. 3

Review and evaluation of the literature on some current topic of research or theoretical concern. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PSY 8620 Social Cognition Cr. 3

How mental representations underlie the processes of social thought and behavior. Students survey, evaluate, and discuss social cognition processes and research; group work to design and conduct tests of social-cognitive processes. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

PSY 8680 Seminar in Physiological Psychology Cr. 3

Critical examination of contemporary research on selected topics concerned with relationships between physiological mechanisms and behavior. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PSY 8740 Seminar in Psychological Measurement and Statistics Cr. 2-3

Topics in measurement and statistical analysis; exploratory data analysis and related problems; multidimensional scaling and clustering techniques; time series analysis; analysis of longitudinal data; item response theory and tailored testing; statistical power. Current topics such as structural equation modeling. Offered Irregularly.

Prerequisites: ([PSY 7160 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PSY 8760 Seminar in Clinical Psychology Cr. 1-3

New clinical methods and scientific developments in the field of clinical psychology. Meets with continuing education seminars in clinical psychology. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Psychology; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PSY 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PSY 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PSY 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PSY 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

PSY 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

PT - PHYSICAL THERAPY

PT 5010 Clinical Applications I Cr. 1

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. Offered Winter.

Prerequisite: PT 5020 and PT 5030

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

PT 5020 Foundations of Physical Therapy Cr. 2

Sociological and historical background of the PT profession. Professional behavior, patient care interaction and medical terminology. Basic physical therapy care procedures, documentation, patient education, care in medical emergencies. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$55

PT 5030 Basic Patient Care in Physical Therapy Cr. 2

Introduction to the basic skills necessary for patient care and provide a foundation to the theory and practice of basic patient care procedures for the Physical Therapist. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Physical Therapy degree; enrollment limited to students in the Pharmacy and Health Sciences.

PT 5070 Clinical Applications II Cr. 2

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. Offered Fall.

Prerequisite: PT 5010 (may be taken concurrently)

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 5100 Therapeutic Exercise I Cr. 3

Foundational course designed to focus on the principles and techniques of therapeutic exercise for patients with pathological conditions to the neuromusculoskeletal system. Students will develop and administer treatment plans for specific patient problems and progress treatment plans based on patient condition and response to treatment. Offered Fall.

Prerequisite: PT 5430 and PT 5500

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

PT 5120 Human Growth and Development Cr. 2

Theories and basic principles in prenatal, physical, sensorimotor, perceptual, cognitive, social, emotional and language growth and development. Implications for physical therapy evaluation and treatment of children with developmental disabilities. Offered Winter.

Prerequisite: PT 5020

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

PT 5300 Surface Anatomy Cr. 2

Laboratory-based course teaching skills for soft tissue palpation, identification of surface anatomy landmarks, soft tissue mobilization and massage. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 5320 Basic Examination and Evaluation Procedures Cr. 3

Lecture and laboratory experience focusing on principles and procedures of foundational medical screening, physical therapy differentiation, and clinical reasoning and decision-making skills; basic principles and techniques for posture, integumentary, neurological, range of motion, and strength examination and evaluation, documenting progress and outcome, and the continued development of patient care skills. Offered Winter.

Prerequisite: PT 5030 and PT 5300 and PT 5505

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

PT 5400 Neurosciences for Health Care Professionals Cr. 3

Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

Equivalent: OT 5400

PT 5430 Clinical Medicine Cr. 4

Disease processes, and medical and surgical interventions. Role of physical therapy as part of comprehensive multi-disciplinary health care team. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 5500 Kinesiology and Biomechanics Cr. 3

Normal movement and biomechanics applied to the human body. Offered Winter.

Prerequisite: PT 5505 and PT 5510 and PT 5400

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

PT 5505 Clinical Applications of Human Anatomy Cr. 3

Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: OT 5505

PT 5510 Clinical Applications of Human Anatomy: Laboratory Cr. 1

Examination of prosections, dissection of human cadavers; didactic study. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$220

Equivalent: OT 5510

PT 5650 Pathophysiology for Health Sciences Cr. 3

Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: OT 5650, RT 5650

PT 5660 Pathokinesiology Cr. 3

Continuation of P T 5500 designed to teach the biomechanical and kinesiological principles of human movement as related to anatomical and neuroanatomical structure. Analysis of pathological motion and pathokinesiology of selected joints will be included. Offered Spring/Summer.

Prerequisite: PT 5500

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

PT 5800 Clinical Education I Cr. 3

Full-time supervised clinical experience for physical therapy students. Six-week experience. First in a two-course clinical education sequence. Offered Spring/Summer.

Prerequisite: PT 7120 with a minimum grade of C or PT 7220 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PT 5820 Clinical Education II Cr. 3

Full-time supervised clinical experience for physical therapy students. Six-week experience. Second in a two-course clinical education sequence. Offered Spring/Summer.

Prerequisite: PT 5800 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PT 6100 Therapeutic Exercise II Cr. 3

Advanced application of principles and techniques of therapeutic exercise; evaluation and modification of therapeutic exercise plan of care, based on physical and functional responses and characteristics of patients or clients. Offered Fall.

Prerequisite: PT 5100

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$60

PT 6200 Diversity, Ethics and Legal Issues in Health Care Cr. 3

Impact of diversity and legal practice standards, including federal, state, and institutional regulations related to patient care and fiscal management of health care practice. Issues in cultural awareness, cultural sensitivity, cultural competence, ethics, and ethical decision making in personal, professional, and societal contexts. Self-analysis of personal attitudes, values, and beliefs. Offered Winter.

Prerequisite: PT 5120

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6300 Research I: Critical Thinking Cr. 2-3

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. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6310 Physiology of Exercise II Cr. 3

Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Fall.

Prerequisite: KIN 3570 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: KIN 6310, PSL 6010

PT 6400 Teaching and Learning in Health Care Cr. 2-3

Exploration of theoretical and practical issues pertinent to physical therapy profession: educational methods, adult learning theories, instructional design methodologies, evaluation, instructional management. Additional project required if elected for three credits. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6500 Pharmacology Cr. 2

Effects of drug distribution, absorption and excretion as pertaining to physical therapy. Major drug categories, OTC, and nutritional supplements, pertinent to acute and chronic responses to physical therapy; indications, mechanisms, effects. Offered Fall.

Prerequisite: PT 5430 and PT 7400

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6700 Motor Learning and Motor Control Cr. 2-3

Current theories and concepts in processes of motor skill acquisition and performance, from a behavioral objective. Additional evidence-based case reports required if elected for three credits. Offered Winter.

Prerequisite: PT 5400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6750 Seminar: Complementary and Alternative Health Care Cr. 2

Physical, psychological, and nutritional approaches relevant to practice of physical therapy. Seminar course. Offered Winter.

Prerequisite: PT 5430 and PT 5650

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 7000 Therapeutic Modalities Cr. 3

Lecture and laboratory experiences focusing on principles and procedures for using physical agents and spinal traction. Tissue inflammation and repair, pain, superficial and deep heat, cryotherapy, electrotherapy, and spinal traction included. Integumentary evaluation and wound management. Offered Fall.

Prerequisite: PT 5430 and PT 5660

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PT 7100 Management of Patients with Orthopedic Conditions I Cr. 3

Lecture and laboratory experience focusing on knowledge, principles, clinical reasoning and decision making skills, examination and evaluation procedures, and interventions required for managing patients with impairments, functional limitations, and disabilities due to musculoskeletal pathologies of the extremity joints across the life span, and the continued development of patient care skills. Offered Fall.

Prerequisite: PT 5320 with a minimum grade of C- and PT 5500 with a minimum grade of C- and PT 5100 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

PT 7120 Management of Patients with Orthopedic Conditions II Cr. 3

Lecture and laboratory experience focusing on knowledge, principles, clinical reasoning and decision making skills, examination and evaluation procedures, and interventions required for managing patients with impairments, functional limitations, and disabilities due to musculoskeletal pathologies of the spinal column and extremity joints across the life span, and the continued development of patient care skills. Offered Winter.

Prerequisite: PT 7100

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

PT 7200 Management of Patients with Neurological Disorders I Cr. 3

Basic principles and techniques of assessing problems associated with neurological disorders including postural tone, sensation, superficial and developmental reflexes, quality of movement, perceptual-motor skills and functional mobility. Offered Yearly.

Prerequisite: PT 5400 and PT 6700

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

PT 7220 Management of Patients with Neurological Disorders II Cr. 3

Theory, principles and application of the neurophysiological approach to evaluation and treatment. Proprioceptive neuromuscular facilitation, neuro development treatment, sensory integration, and sensory-motor approaches. Offered Winter.

Prerequisite: PT 7200

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

PT 7300 Orthotics and Prosthetics Cr. 3

Principles and techniques of prosthetic and orthotic function, component selection and application, use and training. Upper and lower extremity devices, and spinal devices, wheelchairs, ambulatory aids, assistive devices and environmental control systems. Advanced gait and movement biomechanics and evaluation. Offered Fall.

Prerequisite: PT 5100

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PT 7320 Rehabilitation Procedures Cr. 3

Theoretical issues and treatment of patients with spinal cord injury, traumatic brain injury, problems of aging, and chronic neuromuscular conditions. Offered Winter.

Prerequisite: PT 7200 (may be taken concurrently) and PT 7300 (may be taken concurrently)

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 7400 Cardiopulmonary Rehabilitation Cr. 4

Physiology and pathophysiology of disorders of the cardiac and pulmonary systems. Evaluation and treatment of cardiopulmonary disorders. Offered Winter.

Prerequisite: PT 5100 and PT 5430 and PT 6310

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PT 7600 Physical Therapy for Medical and Surgical Conditions Cr. 3

Management of patients with complex problems including medical and surgical conditions seen in acute care hospital settings. Offered Winter.

Prerequisite: PT 5650 and PT 5430

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$25

PT 7700 Research II: Design & Methodology Cr. 2

Introduction to basic principles of research theory, design, and methodology for physical therapy. Biostatistics and analysis of scientific literature relevant to physical therapy. Offered Fall.

Prerequisite: PT 6300

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 7720 Research III: Data Analysis and Interpretation Cr. 2

Basic principles of research design as it relates to the theory and practice of physical therapy. Students will analyze relevant scientific literature, design, develop and implement a research project, and learn basic computer skills in utilizing a statistical analysis program. Offered Winter.

Prerequisite: PT 7700

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PT 7740 Research IV: Research Practicum Cr. 1

Basic principles of research design as it relates to the theory and practice of physical therapy. Students will develop and implement a research project and present the results in several formats. Offered Fall.

Prerequisites: ([PT 6300]) AND ([PT 7700]) AND ([PT 7720])

Restriction(s): Enrollment is limited to Graduate level students.

PT 7990 Directed Study Cr. 1-4

Independent study: critical analysis or review of new or unique topics in health care; or physical therapy role, approach, methodology, techniques or scientific rationale for professional practice. Oral and written presentation required. Elective. Offered Yearly.

Prerequisite: PT 5100

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8000 Therapeutic Management of Pediatric Populations Cr. 3

Principles and application of the elements of physical therapy practice in the management of pediatric populations. Offered Fall.

Prerequisite: PT 5120 and PT 7220

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

PT 8110 Geriatrics Cr. 2

Theories and basic principles of physical, sensorimotor, perceptual, cognitive, social, emotional, and language changes during the aging process. Emphasis is placed on the how the aging process impacts functional independence and contributions from all body systems. Implications for physical therapy evaluation and treatment for the aging population are examined. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8170 Professional Development and Reflective Practice Cr. 3

Exploration of novice vs. expert practice in physical therapy; role of reflection in developing professional skills and behaviors. Current professional and legal issues in provision of physical therapy services. Web-based course. Offered Every Term.

Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8200 Management in Physical Therapy Practice Cr. 2

Overview of health care systems; financing and administration of physical therapy services within various health care systems. Offered Fall.

Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8300 Differential Diagnosis for Health Sciences Cr. 3

Principles and procedures designed to facilitate the integration of previously-introduced examination and evaluation skills, in order to perform differential diagnosis for primary care practice. Offered Every Term.

Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8400 Diagnostic Procedures for Health Sciences Cr. 2-3

Medical diagnostic procedures and application of results as related to provision of physical therapy health services, including diagnostic imaging and laboratory tests. Additional project required if elected for three credits. Offered Every Term.

Prerequisite: PT 5650 with a minimum grade of C and PT 5430 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8500 Clinical Decision Making Cr. 3

Integration of didactic and clinical knowledge in development of diagnostic prognostic skills in physical therapy; focus on refining competencies in peer referral across health care disciplines; development of strategies for clinical decision making. Offered Yearly.

Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program; enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$80

PT 8600 Health Promotion and Wellness Cr. 2

Dimensions of health promotion and wellness, including implementation strategies for different populations. Analysis of physical, emotional and cost benefits. Identification of needs and development of practice plan for groups and individuals. Offered Yearly.

Prerequisite: PT 5100 and PT 7400

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8800 Clinical Internship I Cr. 4

Final full-time supervised clinical experiences for physical therapy students. First of two-course series. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

PT 8820 Clinical Internship II Cr. 8

Full-time supervised clinical internship. Continuation of P T 8800. Offered Fall.

Prerequisite: PT 8800 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

PT 8850 Clinical Practicum Cr. 3

Monitored clinical practice in a focused area of physical therapy practice. Focus may include: administration and management, cardiopulmonary, neurology, orthopedics, integumentary care, pediatrics, and teaching. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PTH - PATHOLOGY

PTH 7000 General Pathology Cr. 5

The structural and functional manifestations of disease. Concepts of biochemistry, physiology and cell biology are utilized in developing a dynamic approach to the study of the abnormal cell and its constituents. Basic mechanisms are stressed. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PTH 7080 Special Topics in Pathology Cr. 1-15

Frontier areas in experimental pathology and clinical laboratory sciences. Format may be lecture, laboratory, or discussion; topics to be announced in Schedule of Classes . Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 20 Credits

PTH 7085 Critical Review of Scientific Publications Cr. 1

For Ph.D. students in biomedical fields. Current experimental approaches in medical research. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Pathology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students.

Repeatable for 5 Credits

PTH 7090 Signal Transduction and Cell Growth Regulation Cr. 3

Signal transduction pathways, both cellular and molecular, and their alterations in cancer. Journal articles and instructor handouts used; emphasis on relationship to disease process. Offered Biannually (Winter).

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PTH 7130 Neuropathology Cr. 2

Offered Yearly.

Prerequisites: ([PTH 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PTH 7150 Pathology of Respiratory Tract Cr. 2

Offered Yearly.

Prerequisites: ([PTH 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PTH 7180 Cardiovascular Pathology Cr. 2

Gross, microscopic and submicroscopic anatomy and pathophysiology of cardiovascular disease, both human and experimental. Offered Yearly.

Prerequisites: ([PTH 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PTH 7330 Pathology of the Kidney Cr. 2

Techniques of preparing renal biopsies for light and electron microscopy and immunofluorescent studies; ultrastructure of normal kidney; physiology of kidney - acute and chronic renal failure; glomerular disease; pyelonephritis; vascular disease; and acute tubular necrosis and renal transplantation. Offered Yearly.

Prerequisites: ([PTH 7000 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PTH 7500 Systemic Pathophysiology Cr. 3

Pathology and pathogenesis underlying abnormal physiologic function of major organ systems in humans. Offered Yearly.

Prerequisite: PSL 7010 with a minimum grade of C and BCH 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

PTH 7890 Seminar Cr. 1

Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Pathology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

PTH 7990 Directed Study in Clinical Pathology and Pathologic Anatomy Cr. 2

Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Pathology; enrollment limited to students in the PhD in Medicine program; enrollment is limited to Graduate level students.

Repeatable for 12 Credits

PTH 8000 Current Topics in Tumor Metastasis Cr. 3

Advances in research on key aspects of tumor metastasis; emphasis on molecular mechanisms, tumor invasion, angiogenesis, and organ-specific tumor metastasis. Offered Fall.

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

PTH 8010 Molecular Biology of Diabetes and Obesity Cr. 2

Basic principles and current research topics in the etiology and pathology of diabetes; diabetic complications and obesity. Offered Biannually (Fall).

Prerequisites: ([IBS 7010 with a minimum grade of C and IBS 7020 with a minimum grade of C] OR [IBS 7015 with a minimum grade of C])

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters or Doctoral Candidate; enrollment is limited to Graduate level students.

PTH 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Prerequisite: PTH 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Prerequisite: PTH 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Prerequisite: PTH 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

PTH 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

PYC - PSYCHIATRY

PYC 6050 Biology of the Eye Cr. 3

Introduction to biology of eye structure/function, and to causes and clinical treatments of eye-related disorders and diseases. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$25

Equivalent: ANA 6050, BIO 6055

PYC 7010 Neurobiology I Cr. 3

First part of a two-semester in-depth study of nerve cells, their organization into functional circuits and their mediation of normal and aberrant behaviors. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

PYC 7140 Fundamentals of Neuroimaging Cr. 3

Overview of methods: PET, EEG/ERP/TMS, fundamentals of MR, structural MRI, functional MR, MR spectroscopy and DTI. Review of the application of these methods in studying disorders of the nervous system. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

PYC 7150 Fundamentals of Neuropsychiatric Disorders Cr. 3

Overview of pathophysiology, clinical manifestations, and treatment of major neuropsychiatric disorders. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

PYC 7320 MR Imaging of Neurovascular Disease Cr. 3

Recent advances in MRI technology applied to human brain vascular diseases. Methods include: 3D anatomical imaging, diffusion tensor imaging, functional brain imaging, perfusion hanging, and susceptibility weighted imaging. Offered Biannually (Fall).

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: BME 7720

PYC 7500 Advanced Topics in Neuroscience Cr. 1-6

Topics offered each semester in one-credit modules, relevant to ongoing research in the degree program. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PYC 7515 Advanced Topics: Imaging, Neurodevelopment and Psychiatric Disorders Cr. 3

Advanced introduction to imaging neurodevelopment based on anatomical, biochemical and functional studies; focus on abnormal development of psychiatric disorders. Offered Biannually (Winter).

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

PYC 7890 Research Seminar Cr. 1

Presentations by clinical and basic research staff and by the program's graduate students. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PYC 7950 Psychology/Psychiatry Internship Cr. 3

Development of psychotherapy and psychological assessment skills, based on psychological theory and research. Training program is customized for each pre-doctoral intern, based on training needs and career objectives. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

PYC 7990 Directed Study Cr. 1-6

Independent study under the guidance of an advisor, including complete review of a problem area immediately relevant to basic or clinical neuroscience. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 10 Credits

PYC 7996 Research Problems Cr. 3

Directed laboratory rotation for graduate students in the translational neuroscience program. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

PYC 7998 Clinical Neuroscience Rotation Cr. 3,6

Neuroscience trainees become familiar with clinical issues in their chosen area of study; transfer of basic science knowledge to clinical application. Offered Every Term.

Prerequisites: ([PYC 7150 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

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

Preparation in writing of a scholarly proposal and thesis. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

PYC 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PYC 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PYC 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: PYC 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

RAS - RADIOLOGIST ASSISTANT STUDIES

RAS 7000 Physics of Imaging Cr. 4

Survey course for the advanced practitioner in graduate radiologic sciences. Offered Spring/Summer.

Prerequisite: RAS 7610 with a minimum grade of C and RAS 7070 with a minimum grade of C and RAS 7320 with a minimum grade of C

Restriction(s): Enrollment limited to students in the MS in Radiologist Asst Studies program; enrollment is limited to Graduate level students.

RAS 7070 Radiation Safety Cr. 2

Operational safety and imaging of fluoroscopic equipment in the clinical setting; for advanced practitioners in graduate radiologic sciences.

Offered Spring/Summer.

Prerequisite: RAS 7610 with a minimum grade of C and RAS 7000 with a minimum grade of C and RAS 7320 with a minimum grade of C

Restriction(s): Enrollment limited to students in the MS in Radiologist Asst Studies program; enrollment is limited to Graduate level students.

RAS 7320 Radiologist Mentored Experience II Cr. 5

Continuation of RAS 7310. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7330 Radiologist Mentored Experience III Cr. 5

Continuation of RAS 7320. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7400 Patient Assessment for RAs Cr. 3

Physical examination and assessment. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7410 Clinical Correlation of Disease Processes Cr. 1

Collection of pertinent data about patient and procedure. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7610 Radiologic Procedures I Cr. 1

Radiologic imaging procedural fundamentals.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7620 Radiologic Procedures II Cr. 1

Advanced radiologic procedures for the radiologist assistant. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RCI - REHABILITATION COUNSELING AND COMMUNITY INCLUSION

RCI 7110 Techniques of Rehabilitation Counseling Cr. 3

Techniques and process of counseling of counseling including: facilitative relationships, case conceptualization, goal setting, intervention, and outcome evaluation. Development of skills with respect to psychological, social, and vocational implications of disabilities on adjustment. Offered Yearly.

Prerequisites: ((CED 6080 with a minimum grade of C) AND ((CED 7000 with a minimum grade of C) AND ((CED 7001 with a minimum grade of C) AND ((CED 7080 with a minimum grade of C) AND ((RCI 7410 with a minimum grade of C) AND ((RCI 7420 with a minimum grade of C) AND ((RCI 7450 with a minimum grade of C) AND ((RCI 7480 with a minimum grade of C)

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Rehab Couns & Comm Inclusion; enrollment is limited to Graduate level students.

Equivalent: CED 7040

RCI 7120 Assessment for Counselors and Rehabilitation Cr. 3

Overview of psychological, educational and vocational assessment techniques, including specific assessment applications such as clinical assessment, communicating assessment results, assessment with diverse populations, and ethical issues. Offered Winter.

Prerequisites: ((RCI 7410 with a minimum grade of C, RCI 7420 with a minimum grade of C, and RCI 7480 with a minimum grade of C) OR [CED 6070 with a minimum grade of C and CED 6080 with a minimum grade of C]

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$52

Equivalent: CED 7120

RCI 7150 Rehabilitation Counseling Professional Roles Cr. 3

Roles of rehabilitation professional as counselor, consultant, case manager and advocate. Case analysis, service applications and recording and reporting from perspectives of various professional rehabilitation counseling roles. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

RCI 7410 Foundations of Rehabilitation Counseling Cr. 3

Comprehensive introduction to rehabilitation counseling as a human service field. Values philosophy, history and legislation of rehabilitation; community inclusion and support; and professional issues. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

RCI 7420 Medical Aspects of Disability Cr. 3

Types of disabilities, treatment strategies, impact of disability on physical and vocational functioning of persons with disabilities. Offered Winter.

Prerequisite: RCI 7410 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

RCI 7430 Counseling Practicum Cr. 4

Supervised experience in individual and group interactions, assessment and appraisal, diagnosis and treatment planning, other professional counseling activities; use of variety of counseling and rehabilitation resources. Students attend seminars for supervision and discussion of professional issues in interdisciplinary context (minimum of 100 clock hours). Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$25

Equivalent: AED 7380, CED 7150

RCI 7450 Employment for Persons with Disabilities Cr. 3

Design and implementation of effective methods to help persons with disabilities obtain and maintain employment. Marketing and job placement skills, job-seeking skills training, job clubs, job adaptation, supported and transitional employment, employer assistance and training, and follow-along services. Offered Winter.

Prerequisite: RCI 7100 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

RCI 7460 Counseling Internship Cr. 1-6

Supervised field experience providing counseling or rehabilitation services at a cooperating agency or institution under supervision of approved professional. Students complete a minimum of 600 clock hours. Offered Yearly.

Prerequisite: RCI 7430 with a minimum grade of B

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AED 7890, CED 7020

Repeatable for 6 Credits

RCI 7470 Family and Community Support for Inclusion Cr. 3

Services that facilitate full participation of persons with disabilities in the life of their families and communities. Persons with disabilities in context of: families, family dynamics, cultural diversity, family structure, family support. Community support, supported independence, independent living centers, therapeutic recreation and related programs. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

RCI 7480 Psychosocial Aspects of Disability Cr. 3

Psychological, social and cultural aspects of adjustment and adaptation to a variety of disabling conditions. Theoretical and practical issues relating to various types of physical, neurological, sensory, psychiatric disabilities. Offered Winter.

Prerequisite: RCI 7410 with a minimum grade of C and RCI 7420 with a minimum grade of C and CED 6080 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

RCI 7510 Special Topics in Rehabilitation Counseling Cr. 1-3

Emerging and contemporary issues of selected disabilities and intervention techniques aimed at improving the lives of people with disabilities. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

RCI 7515 Rehabilitation Treatment Planning and Intervention for People with Psychiatric Disabilities Cr. 2

Knowledge and skills in treatment planning and intervention with people who have psychiatric disabilities. Rehabilitation assessment, rehabilitation plan development, employment strategies, and life care planning. Offered Fall.

Prerequisites: ((RCI 7410 with a minimum grade of B-) AND ((RCI 7510 with a minimum grade of B-))

Restriction(s): Enrollment is limited to Graduate level students.

RDT - RADIOLOGIC TECHNOLOGY

RDT 3090 Directed Study Cr. 1

Independent study of medical terminology and related vocabulary. Instructor-directed online course. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 3100 Introduction to Radiologic Technology Cr. 2

Introduction to radiology and hospital procedures. Role of radiographer as a member of the health care team. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 3200 Radiation Biology and Advanced Protection Cr. 3

Radiation protection procedures; radiation interaction with matter and dosage problem solving. Offered Spring/Summer.

Prerequisite: RDT 3100

Corequisite: RDT 3400

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 3300 Radiographic Procedures I Cr. 3

Instruction and practical experience in procedures of positioning for the skeletal system with correlation to related anatomy in medical images. Offered Fall.

Prerequisite: RDT 3100 with a minimum grade of C- and RDT 3200 with a minimum grade of C- and RDT 3400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 3400 Clinical Education I Cr. 1-6

Clinical course. Student participates in supervised practice of radiographic procedures, studied in conjunction with didactic coursework. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$55

Repeatable for 6 Credits

RDT 3500 Patient Care Cr. 3

Practical application of patient handling; patient assessment, implication of medications and contrast media. BLS certification. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$35

RDT 3600 Clinical Education II Cr. 6

Application of didactic theory in practice on patients/clients under supervision of qualified technologists in a clinical setting. Offered Fall.

Prerequisite: RDT 3500 with a minimum grade of C- and PHI 1110 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$50

RDT 3700 Radiographic Procedures II Cr. 3

Continuation of RDT 3300. Additional advanced procedures, including skull, mammography, and gastrointestinal studies. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$35

RDT 3800 Cross-Sectional Anatomy Cr. 3

Presentation of anatomical structures in sectional format, as encountered in computed tomography or magnetic resonance imaging. Offered Spring/Summer.

Prerequisite: RDT 3700 with a minimum grade of C- and RDT 3900 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 3900 Clinical Education III Cr. 6

Minimally supervised clinical experience. Skills practice to proficiency level; additional complex skills. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 4100 Radiographic Quality/Exposure Cr. 3

Practical application of technical exposure factor formulation; imaging systems and subsequent effects of equipment manipulation of images. Offered Fall.

Prerequisite: RDT 4200 with a minimum grade of C- and RDT 4300 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$35

RDT 4200 Radiation Physics and Circuitry Cr. 3

Radiation physics; tubes and circuits of radiographic equipment. Offered Fall.

Prerequisite: RDT 4100 with a minimum grade of C- and RDT 4300 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 4300 Clinical Education IV Cr. 6

Continuation of RDT 3900. Offered Spring/Summer.

Prerequisite: RDT 4100 with a minimum grade of C- and RDT 4200 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$30

RDT 4400 Radiographic Pathology Cr. 3

Disease process and how they manifest in imaging modalities. Clarification of modality preference. Offered Winter.

Prerequisite: RDT 4500 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 4500 Clinical Education V Cr. 6

Supervised clinical experience in performing radiographic procedures on patients in clinical setting. Evaluation of outcomes; application of knowledge at a progressive level. Offered Fall.

Prerequisite: RDT 4400 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$75

RDT 4600 Radiology Seminar Cr. 1-3

Introduction to imaging modalities beyond the scope and practice of the general radiographer; emphasis on interventional procedures. Offered Winter.

Prerequisite: RDT 4700 (may be taken concurrently) with a minimum grade of C- and RDT 4800 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 4700 Clinical Education VI Cr. 6

Continuation of RDT 4500. Offered Winter.

Prerequisite: RDT 4600 (may be taken concurrently) with a minimum grade of C- and RDT 4800 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 4800 Independent Study Cr. 1

Independent research in radiology. Offered Fall.

Prerequisite: RDT 4600 with a minimum grade of C- and RDT 4700 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 4900 Jurisprudence for Radiographers Cr. 3

Ethical and legal case studies; research and discussion correlated to philosophical theory and accepted best law practice for general situations in health care and those specific to radiography. Offered Winter.

Prerequisite: PHI 2320 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RDT 6500 Pharmacology Cr. 2

Effects of drug distribution, absorption and excretion as pertaining to physical therapy. Major drug categories, OTC, and nutritional supplements, pertinent to acute and chronic responses to physical therapy; indications, mechanisms, effects. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RLL - READING, LANGUAGE AND LITERATURE EDUCATION

RLL 6120 Developmental Reading I: Comprehension Preprimary-8 Cr. 3

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. Offered Every Term.

Prerequisites: ([ELE 6310])

Restriction(s): Enrollment limited to students in the College of Education.

RLL 6121 Teaching Reading in the Content Areas: Grades 6-12 Cr. 3

Teaching reading across all content areas with particular attention to readers with special needs. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

RLL 6400 Practicum in Developmental Reading Cr. 1-4

Identifying and solving field problems in developmental reading, management of reading instruction, the importance of reading in the content areas. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

Repeatable for 4 Credits

RLL 6700 Second Language Literacy Development: K-12 Cr. 3

Examination of theories, organizations and instructional strategies involved in second language literacy development, and their applications in the classroom. Offered Fall, Spring/Summer.

Prerequisite: LED 6520 with a minimum grade of C-

RLL 6801 Assessment and Differentiated Instruction for Diverse Learners: Pre-K-8 Cr. 3

Assessment of literacy competencies of diverse learners; use of assessments to plan and implement differentiated instruction in grades PreK-8. Implementation with students in field component; and evaluation. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

RLL 6802 Assessment and Differentiated Instruction for Diverse Learners: 6-12 Cr. 3

Assessment of literacy competencies of diverse learners; use of assessments to plan and implement differentiated instruction in grades 6-12. Implementation with students in field component; and evaluation. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

RLL 7100 Emergent Literacy Cr. 3

Variety of theories, organization and instructional strategies involved in the beginning stages of literacy; their application to the classroom. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7200 Comprehension Cr. 3

Models of comprehension, factors that affect comprehension, instructional methods, reading/writing connection, evaluation (pre-K to adult). Offered Yearly.

Prerequisites: ([RLL 7100 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7300 Literacy Across the Curriculum Cr. 3

Theoretical bases for teaching literacy across the curriculum; strategies for organization and instruction. Action research as a tool for learning. Offered Yearly.

Prerequisites: ([RLL 7100 with a minimum grade of C]) AND ([RLL 7200 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7350 Organization and Supervision of Literacy Programs Cr. 3

Factors necessary to organize and supervise literacy programs. Topics include: curriculum development for a variety of needs, evaluation of programs, resources and material; staff development; communicating with parents, other professionals, and the public. Offered Spring/Summer.

Prerequisites: ([RLL 7100 with a minimum grade of C]) AND ([RLL 7200 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7400 Practicum and Seminar in Evaluation and Instruction Cr. 3

Evaluation and literacy competencies of learners, methods of instruction, use of portfolios and reports to document progress; applied during supervised tutoring. Offered Yearly.

Prerequisites: ([RLL 7100 with a minimum grade of C]) AND ([RLL 7200 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

RLL 7500 Theoretical Foundations for Literacy Cr. 3

Implications of theories from sociology, psychology, linguistics, semiotics and related fields, for the development of literacy. Offered Yearly.

Prerequisites: ([RLL 7100 with a minimum grade of C]) AND ([RLL 7200 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7600 Current Developments in Literacy Education Cr. 1-6

Topics of current interest; review of literature, discussion of educational implications. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

RLL 7720 Survey and Analysis of Current Literature for Children: PS-Grade 3 Cr. 3

Intensive examination of books appropriate for preprimary and primary school children. Analysis of the literary and extra-literary factors that affect the young child's experiences with fiction, non-fiction, and poetry. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 6510

RLL 7740 Survey and Analysis of Literature for Older Children: Grades 4-8 Cr. 3

Intensive examination of books appropriate for children in grades four through eight. Analysis of literary and extra-literary factors affecting the older child's experiences with fiction, non-fiction, and poetry. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: INF 6520

RLL 7750 Survey and Analysis of Current Children's Literature: Preschool - Grade 8 Cr. 3

Intensive examination of books for children in preschool through eighth grade. Analysis of literary and extra-literary factors affecting the child's experiences with fiction, non-fiction and poetry. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: RLL 7720, RLL 7740

RLL 7780 Storytelling Cr. 3

Selection of appropriate literature and materials for story performance; guided practice in selection and presentation of literature for oral communication by reading aloud, mediated storytelling and storytelling. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7800 Writing Development and Instruction Cr. 3

Key theories on how students learn to write; key stages of the writing process, authoring cycle, and special challenges students encounter with different genres. Strategies for developing various aspects of the writing process and creation of different genres. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 7820 Responding to Texts: Theory and Practice Cr. 3

Roles of reader, text, and teacher in connection with reader-response theories such as transmission, transaction and transformation theories; practical strategies for literary engagement and response. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8200 Thought, Language, Social Interaction, and Learning Cr. 3

Reading, writing and learning as psycho-social activities which reflect culture and community; interrelationships between thought, language, social interaction, and learning. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8500 Literacy in a Socio-Political Culture Cr. 3

Literacy issues within social, political, and cultural arena; actions that impact literacy and literacy instruction. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8600 Internship in Research and Teaching Cr. 3-6

Experiences in college-level teaching and/or research through internships teaching college courses and/or collaborative research with experienced faculty. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

RLL 8700 Research Applications in Literacy Cr. 3

Research designs, analysis strategies, relevant statistics useful in conducting a wide variety of contemporary literacy-related research. Offered Yearly.

Prerequisite: EER 7630 with a minimum grade of C and EER 7640 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8800 Seminar in 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. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8810 Seminar in Research in Reading II: Emergent Literacy and Socio-Cultural Factors Cr. 3

Current research and theories of emergent literacy and the social and cultural factors of literacy development. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8830 Current Issues and Research in Literacy Cr. 3

Research and theories in literacy and related fields; their potential to impact instruction, society, and further research. Students read, discuss, and critique current research and consider the implications for theory, literacy instruction, and further research. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

RLL 8840 Practicum in Supervision and Administration of Programs in Literacy Development Cr. 3

Understanding the supervision and administration of literacy programs through investigation, experience supervising a literacy center in conjunction with faculty, and working with master's-level students who are tutors in that program. Offered Every Term.

Prerequisite: RLL 7400 with a minimum grade of C or RDG 7400 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC - RADIATION ONCOLOGY

ROC 5010 Introduction to Radiological Physics Cr. 4

Nature of radiation and its interaction with matter. Theory of dosimetry and instrumentation for detection of radiation. Principles of radiation protection. Applications of radiation in radiology and related problems. Offered for graduate credit only. Offered Yearly.

Prerequisite: PHY 2180 with a minimum grade of C- and PHY 3300 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

ROC 5990 Directed Study in Medical Sciences Cr. 1-4

Introduction to modern methodology of cancer research. Students of the Division of Cancer Biology of the Department of Radiation Oncology conduct research projects under direction of research scientists. Areas of research include: molecular biology, enzyme purification, tumor biology, cellular biochemistry. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 6710 Physics in Medicine Cr. 3

Applications of physics in medicine including radioactivity; interaction of radiation in matter; x-ray, CT, MRI, ultrasound, and PET imaging; nuclear medicine; radiation oncology; nerve electrophysiology, electrocardiogram, pacemakers, and defibrillators. Offered for graduate credit only. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: PHY 6710

ROC 7000 Imaging Physics I Cr. 4

Basic theory of medical imaging. Introduction to magnetic resonance imaging and spectroscopy, ultrasound; diagnostic radiology: radiography, fluoroscopy, CT, digital radiography, and mammography. Offered Fall.

Prerequisite: ROC 5010 (may be taken concurrently)

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7010 Imaging Physics II: Nuclear Medicine Cr. 2

Physics of nuclear medicine, with emphasis on imaging. Offered Winter.

Prerequisite: ROC 5010

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7020 Physics of Radiation Therapy Cr. 3

Lecture and demonstration in physics of radiation therapy. Offered Winter.

Prerequisite: ROC 5010

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7040 Radiation Dosimetry Cr. 2

Lecture and demonstration on principles of radiation dosimetry. Dosimetry of photons, electrons, neutrons and dose from radioactive materials. Offered Winter.

Prerequisite: ROC 5010

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7050 Diagnostic Imaging Laboratory Cr. 2

Practical laboratory exercises in ionometric and solid-state dosimetry techniques, quality assurance, and radiation safety for selected diagnostic imaging techniques. Offered Winter.

Prerequisite: ROC 7000

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7060 Applied Radiobiology in Radiological Science Cr. 2

Fractionation, oxygen enhancement ratio, characterization of neutron beams and heavy particles for radiation therapy, radiosensitivity within cell division. Offered Fall.

Prerequisite: PHY 2180 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7070 Radiation Safety Cr. 2

Lectures on radiation safety procedures and practices; governmental regulations on radiation safety. Offered Spring/Summer.

Prerequisite: ROC 5010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7080 Radiotherapy Physics Laboratory Cr. 2

Practical laboratory exercises in ionometric and solid-state dosimetry techniques, quality assurance procedures for selected radiation therapy and diagnostic radiological equipment. Offered Spring/Summer.

Prerequisite: ROC 7020 with a minimum grade of C and ROC 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7090 Biomedical Nuclear Magnetic Resonance Cr. 2

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. Offered Fall.

Prerequisite: PHY 2180 with a minimum grade of C- and PHY 3300 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7110 Treatment Planning Cr. 2

Practical aspects of radiotherapy treatment planning. Lectures and exercises in patient data acquisition and computerized treatment planning for a variety of sites with both teletherapy and brachytherapy. Offered Fall.

Prerequisite: ROC 7020 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7120 Radionuclide Therapy Cr. 2

Development of radionuclide technology and its practical peaceful use from its discovery to the latest developments. Offered Fall.

Prerequisite: ROC 5010 with a minimum grade of C- and ROC 7020 with a minimum grade of C and ROC 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7130 Nuclear Medicine Physics Laboratory Cr. 2

Laboratory experiments calibration, Q.A., etc., on isotope generators, isotope calibrators, counting systems, spectrometers, cameras, spect and PET systems, Counting statistics, spectrum analysis. Offered Spring/Summer.

Prerequisite: ROC 7010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7150 Radiation Oncology Anatomy Cr. 2

Independent study course covering radiological (CT/MRI) anatomy and basic anatomy and medical terminology pertinent to radiation oncology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7160 Advanced Topics in Medical Physics Cr. 2

Advanced imaging principles for students pursuing careers in medical physics or any other profession related to diagnostic imaging. Offered Winter.

Prerequisite: ROC 5010 with a minimum grade of C- and ROC 7000 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7170 Professional Aspects of Medical Physics Cr. 2

Provide an overview of the professional aspects of clinical radiation oncology physics. Involvement in practical aspects of clinical radiation oncology physics including analysis of quality assurance and practice quality improvement initiatives, review of regulatory and external certification requirements, etc. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7890 Seminar Cr. 1

Presentations by graduate students, staff, visitors with emphasis on topics relevant to radiation biophysics and radiological health. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 7990 Directed Study Cr. 1-5

Independent study in the uses of new technologies in clinical radiology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 5 Credits

ROC 7999 Essay Direction Cr. 3

Preparation of an in-depth paper on a subject in radiological physics. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Medical Physics or Radiological Physics; enrollment is limited to Graduate level students.

ROC 8990 Special Problems in Radiation Biophysics Cr. 1-7

Independent study in advanced topics to be selected by the student in consultation with instructor. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Medical Physics or Radiological Physics; enrollment is limited to Graduate level students.

Repeatable for 7 Credits

ROC 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ROC 9991

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ROC 9992

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ROC 9993

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: ROC 9994

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

ROC 9996 Radiation Oncology Physics Clinical Rotation I Cr. 7.5

Prereq: DMP candidate in department and written consent of the program director. Required in Fall term of Year 3 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 9997 Radiation Oncology Physics Clinical Rotation II Cr. 7.5

Prereq: Satisfactory completion of ROC 9996 and written consent of the program director. Required in Winter term of Year 3 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 9998 Radiation Oncology Physics Clinical Rotation III Cr. 7.5

Prereq: Satisfactory completion of ROC 9997 and written consent of the program director. Required in Fall term of Year 4 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

ROC 9999 Radiation Oncology Physics Clinical Rotation IV Cr. 7.5

Prereq: Satisfactory completion of ROC 9998 and written consent of the program director. Required in Winter term of Year 4 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

RT - RADIATION THERAPY TECHNOLOGY

RT 3000 Concepts of Clinical Care Cr. 3

Procedures and ethics related to the care and examination of the radiation oncology patient. Topics include: basic pharmacology, drug administration, pain management, treatment side effects and their management. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

RT 3010 Introductory Radiation Physics Cr. 3

Basic introduction of radiation physics including the x-ray machine, physical principles and circuitry; principles of mathematics. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 3020 Clinical Radiation Physics Cr. 3

Principles of radiation exposure; radiation producing and measuring devices; clinical application of radiation physics. Offered Winter.

Prerequisite: RT 3010

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 3110 Clinical Aspects of Radiation Therapy Cr. 3

Basic concepts in oncology and radiation therapy technology. Topics include: cancer statistics, neoplasia, and principles of treatment and dosage. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 3140 Topographic Anatomy and Medical Imaging Cr. 3

Procedures for imaging human structure and their relevance to radiation therapy; topographic and cross sectional anatomy, identification of anatomic structures as demonstrated through various imaging modalities and human anatomy lab sessions; fundamentals of radiographic exposure techniques and film processing. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

RT 3200 Therapeutic Interactions in Oncology Care Cr. 2

Issues related to professional interaction with oncology patients. Impact of cancer diagnosis on patient and family; subsequent role of radiation therapist. Approaches to effective communication. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$5

RT 3310 Clinical Practicum I Cr. 3

Introduction to clinical radiation therapy. Closely supervised patient-related activities. Emphasis on development of interpersonal communication skills in the clinical setting; medical terminology. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$59

RT 3320 Clinical Practicum II Cr. 4

Closely supervised practice in the delivery of prescribed doses of radiation utilizing common radiation equipment. Observation and performance of clinical care procedures; Development of communication skills in patient/therapist relationships. Correlation of medical imaging techniques to diagnostic workup and treatment planning. Completion of clinical competency requirements. Offered Winter.

Prerequisite: RT 3310

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 3330 Clinical Practicum III Cr. 4

Expanded supervised practice in the delivery of radiation therapy treatments. Submission of essay on radiation oncology topic. Completion of clinical competency requirements. Offered Spring/Summer.

Prerequisite: RT 3320

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 4110 Clinical Radiation Oncology Cr. 4

General presentation of malignant conditions, their etiology and methods of treatment; specific radiation treatment methodology including technical parameters of field size and direction, dosage, blocking, and patient positioning. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

RT 4120 Basic Clinical Dosimetry Cr. 4

Basic concepts of clinical dosimetry and treatment planning; various external beam techniques, depth dose data, and summation of isodose curves. Offered Winter.

Prerequisite: RT 4110 with a minimum grade of C

Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech or BS in Radiation Therapy Tech programs; enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

RT 4140 Oncologic Pathology Cr. 2

Basic principles of neoplasia, including types of growth, causative factors, biological behavior, and significance of staging procedures. Pathology of radiation injury. Offered Fall.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

RT 4150 Radiobiology of Radiation Oncology Cr. 2

Biological effects of ionizing radiation on living tissue. Cell and tissue radiosensitivity; radiation syndromes and related effects. Basic radiobiological principles of radiation oncology and radiation protection. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 4220 Radionuclide Physics Cr. 3

Natural radioactivity; isotopes and nuclear structure; techniques of radiation measurement. The clinical use of radionuclides. Radiation safety. Offered Fall.

Prerequisite: RT 3020 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 4240 Radiation Therapy Technology Seminar Cr. 3

Issues relevant to the practice and profession of radiation therapy technology explored through group discussion and case studies. Topics include: psychosocial, cultural, economic, physical, and educational factors which affect the patient; professional, administrative, legal, and bioethical issues which influence professional practice. Offered Winter.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$15

RT 4300 Quality Assurance Cr. 2

Principles and application of a comprehensive quality assurance program, addressing general clinical and physics factors. Contents include: tasks to be performed, with their frequency and acceptable limits; model implementation program; and legal implications. Lecture and laboratory settings. Offered Spring/Summer.

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$10

RT 4350 Clinical Practicum IV Cr. 4

Continued supervised practice in a wide spectrum of clinical activities. Submission of a critical bibliography from current literature of radiation therapy, cancer management and related areas. Completion of clinical competency requirements. Offered Fall.

Prerequisite: RT 3330 with a minimum grade of C

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$59

RT 4360 Clinical Practicum V Cr. 4

Continued clinical practice under limited supervision. Submission of essay on radiation oncology topic. Completion of clinical competency requirements. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Winter.

Prerequisite: RT 4350 with a minimum grade of C-

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

RT 4370 Clinical Practicum VI Cr. 4

Continued clinical practice under minimal supervision. Practice of procedures related to the development of various treatment plans and methods of treatment planning. Submission of report on quality assurance activities. Completion of clinical competency requirements. Offered Spring/Summer.

Prerequisite: RT 4360

Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Course Material Fees: \$20

RT 5650 Pathophysiology for Health Sciences Cr. 3

Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.

Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program; enrollment limited to students in the Pharmacy and Health Sciences.

Equivalent: OT 5650, PT 5650

RT 5990 Directed Study in Radiation Therapy Technology Cr. 1-5

Production of a paper, written assignment, or presentation to develop critical thinking, research, writing and presentation skills. Focus on career options within the field. Offered Every Term.

Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program; enrollment limited to students in the Pharmacy and Health Sciences.

Repeatable for 5 Credits

RUS - RUSSIAN

RUS 1010 Elementary Russian I Cr. 4

Development of practical skills in speaking, understanding, reading, and writing contemporary Russian. Offered Fall.

Course Material Fees: \$5

RUS 1020 Elementary Russian II Cr. 4

Continuing development of the four skills in contemporary Russian. Offered Winter.

Prerequisites: ([RUS 1010 with a minimum grade of D-])

Course Material Fees: \$5

RUS 2010 Intermediate Russian I Cr. 4

Continuation of RUS 1020 with emphasis on developing speaking and reading skills. Offered Fall.

Prerequisites: ([RUS 1020 with a minimum grade of D-])

Course Material Fees: \$5

RUS 2020 Intermediate Russian II Cr. 4

Objectives begun in RUS 2010; at more advanced level. Offered Winter.

Course Material Fees: \$5

RUS 2030 Russian Conversation Cr. 1

Development of Russian oral language skills through intensive speaking and listening practice. Offered Fall, Winter.

Prerequisites: ([RUS 2020 with a minimum grade of D-])

RUS 2070 Russian Listening Comprehension I Cr. 2

Students view episodes of the Russian series "Eralash," study vocabulary, and do exercises designed to help them develop listening comprehension and expand their Russian vocabulary. Offered Fall, Winter.

Prerequisites: ([RUS 2020 with a minimum grade of D-])

RUS 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4

A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus, and Unamuno. Offered Winter.

Equivalent: FRE 2700, GER 2700, ITA 2700, SPA 2700

RUS 2710 Introduction to Russian Culture Cr. 3

Survey of Russian culture from the tenth century to the present day. Introduction to Russian history, art, architecture, literature, music, religious practices, intellectual thought, and cuisine, as well as various aspects of daily life from the Tsarist period to the present day. Offered Every Term.

RUS 2991 Understanding the Fairy Tale Cr. 3

Introduction to the interdisciplinary context of major Russian fairy tales, exploring the different types of traditional Russian fairy tales, as outlined by Vladimir Propp, as well as the evolution of these fairy tales, emphasizing their transformation from oral and literary form into film, animation, opera, ballet, art, sculpture, and music. The course will also examine contemporary literary texts based on fairy tale motifs. All lectures and reading in English. Offered Fall, Winter.

RUS 3010 Intermediate-Advanced Russian I Cr. 4

Further development of skills; taught in two tracks at fifth and seventh semester levels. Offered Fall.

Prerequisites: ([RUS 2020 with a minimum grade of D-])

Repeatable for 8 Credits

RUS 3020 Intermediate-Advanced Russian II Cr. 4

Further development of skills; taught in two tracks at sixth and eighth semester levels. Offered Winter.

Prerequisites: ([RUS 2020 with a minimum grade of D-])

Repeatable for 8 Credits

RUS 3040 Russian for Heritage Learners Cr. 3

For Russian heritage learners who have oral skills at or above those expected of students who have completed RUS 3020, but who need to improve their reading and writing skills. Offered Fall, Winter.

RUS 3050 Russian Practicum Cr. 3

Internship with local Russian businesses and non-profit organizations to enable students to use Russian in real-life settings and learn about Russian culture first-hand. Offered Fall, Winter.

Prerequisites: ([RUS 3010 with a minimum grade of D-])

Repeatable for 9 Credits

RUS 3070 Russian Listening Comprehension II Cr. 2

Online course. Students view Russian videos and listen to audiotexts of fables and poetry, do exercises designed to develop their listening comprehension and expand their Russian vocabulary, and take quizzes and exams online. Offered Fall, Winter.

Prerequisites: ([RUS 3010 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

RUS 3250 Reading Russian Cr. 3

Survey of Russian Grammar and basic vocabulary to develop reading skill. Offered Yearly.

Restriction(s): Enrollment is limited to Undergraduate level students.

RUS 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3

Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.

Equivalent: ARM 3410, GER 3410, POL 3410, SLA 3410

RUS 3600 Nineteenth Century Russian Literature Cr. 3

Major Russian writers, including Pushkin, Dostoevsky, Tolstoy, Chekhov, and others. How literature reflects and grows out of history; how culture is affected by writers and poets. Taught in English; readings in English. Offered Fall.

RUS 3650 Russian Literature Since 1900 Cr. 3

Twentieth century Russian literature as it explores the universal questions of love, death, rebirth, spirituality, and despair against a background of war, revolution, political oppression and economic collapse. Close analysis of major works of prose and poetry as well as literary currents such as Russian modernism, Socialist Realism, and post-modernism. Taught in English; readings in English. Offered Biannually.

RUS 3700 The Changing Face of Europe Cr. 1-2

Special topics relating to Central, Eastern and Western Europe. Offered Irregularly.

Equivalent: GER 3700, POL 3700, SLA 3700

RUS 3810 Topics in Slavic Studies Cr. 3

Special topics relating to Slavic languages, literatures and cultures, such as drama, the Gulag, and contemporary culture. Offered Yearly.

Equivalent: POL 3800, SLA 3800

Repeatable for 9 Credits

RUS 3990 Directed Study Cr. 1-3

For students desiring additional work in the language at the intermediate level; for programs of work not included in scheduled courses, either in language or literature. Offered Every Term.

Prerequisites: ([RUS 2010 with a minimum grade of D-])

Repeatable for 6 Credits

RUS 5600 Nineteenth Century Russian Literature Cr. 3-4

For advanced undergraduate and graduate students interested in Russian literature. Major nineteenth-century authors: Pushkin, Dostoevsky, Tolstoy, Chekhov, and others. Close readings of works introduce traditions and thematic concerns within historical and socio-cultural contexts; relevant intellectual, religious, political factors. Taught in English; readings in English. Offered Fall.

RUS 5650 Russian Literature Since 1900 Cr. 3-4

For advanced undergraduate and graduate students interested in Russian literature. Twentieth century Russian literature as it explores the universal questions of love, death, rebirth, spirituality, and despair against a background of war, revolution, political oppression and economic collapse. Close analysis of major works of prose and poetry as well as literary currents such as Russian modernism, Socialist Realism, and post-modernism. Taught in English; readings in English. Offered Biannually.

RUS 5990 Directed Study Cr. 1-3

For students who wish credit for program of work not included in regularly scheduled courses, either in language or in literature. Knowledge of Russian required. Offered Every Term.

Repeatable for 12 Credits**RUS 5993 Writing Intensive Course in Russian Cr. 0**

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.

Prerequisites: (((AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to Undergraduate level students.

RUS 5999 Internship in Russian Studies Cr. 3

Internship in a public or private organization related to Russian studies. Offered for undergraduate credit only. Offered Every Term.

Prerequisite: RUS 3010 with a minimum grade of C- or RUS 3020 with a minimum grade of C-

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Slavic Studies or Slavic Studies Honors.

SCE - SCIENCE EDUCATION

SCE 5010 Biological Sciences for Elementary and Middle School Teachers Cr. 3

Significant biological principles, generalizations and understandings with relation to their use with children. Appropriate learning activities; experiments, field trips, text and reference materials, audio-visual resources, evaluation. Offered Every Term.

Course Material Fees: \$10

SCE 5020 Physical Sciences for Elementary and Middle School Teachers Cr. 3

Significant principles, generalizations and understandings in the physical sciences with relation to their use with children. Appropriate learning activities including experiments, field trips, reference materials, audio-visual resources. Offered Every Term.

Course Material Fees: \$10

SCE 5030 Earth/Space Science for Elementary and Middle School Teachers Cr. 3

Principles, generalizations and understandings related to teaching earth/space science to children. Learning activities, field trips, technology, and evaluation. Offered Every Term.

Course Material Fees: \$10

SCE 5060 Methods and Materials of Instruction in Secondary School Science I Cr. 3

Role of science in the secondary curriculum. Problems and techniques of teaching science in the secondary schools; objectives, planning laboratory experiments, demonstrations, directed study, student projects, text and reference material, audio-visual resources, evaluation. Offered Fall.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$10

SCE 5070 Methods and Materials of Instruction in Secondary School Science II Cr. 3

Problems of selecting and organizing teaching-learning materials in secondary school science. Development of illustrative instructional units. Resources for professional growth of science teachers; professional literature and organizations. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Education.

SCE 6010 Safety in the Science Classroom Cr. 2

Principles of Laboratory safety in all K-12 science classrooms, including legal responsibilities related to the use, storage and disposal of chemicals and biological specimens as well as legal and ethical use of living organisms in the classroom. Offered Winter.

Restriction(s): Enrollment limited to students in the College of Education.

SCE 6030 Advanced Studies in Teaching Science in the Junior High and Middle School Cr. 3

Innovations and improvements in middle school and junior high school science teaching. Exploration of appropriate areas of study, development and selection of learning activities and materials; laboratory experiences in selected areas. Offered Biannually.

Restriction(s): Enrollment limited to students in the College of Education.

SCE 6040 Advanced Studies in Teaching Science in the High School Cr. 3

Emphasis on methods of teaching biology and the physical sciences in the high school. Recent curriculum studies, research, and current problems. Laboratory experiments, equipment, textual and reference material, audio-visual resources, and evaluation procedures. Offered Biannually.

Course Material Fees: \$10

SCE 6080 Teaching Environmental Studies Cr. 3

Ecological concepts and environmental problems, possible solutions, and their implications for curriculum development and classroom teaching in K-12 educational settings. Science as a process is stressed throughout classroom activities, field trips, and assignments. Offered Biannually.

Course Material Fees: \$10

SCE 7010 Special Topics in Science Education Cr. 1-3

Current theories and issues related to science education: nature of science, equity, global education, interdisciplinary approaches, alternative forms of assessment and technology integration. Topics to be announced in Schedule of Classes. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

SED - SPECIAL EDUCATION

SED 5010 Inclusive Teaching Cr. 2

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. Offered Yearly.

SED 5030 Education of Exceptional Children Cr. 3

General background and overview information concerning various classifications of exceptional children, youth and young adults, their role in society, and their education. Offered Every Term.

SED 5040 Language Acquisition and Educational Interventions for Students with Moderate to Severe Impairment Cr. 2

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. Offered Spring/Summer.

Prerequisite: SED 5030

Restriction(s): Enrollment limited to students in the College of Education.

SED 5060 Developing Observation and Assessment Skills: Laboratory/Seminar Cr. 3

Investigation and application of appropriate evaluative techniques for use with learners with mental impairments in an educational setting. Offered Yearly.

Prerequisite: SED 5030

SED 5090 Transitions for Students with Disabilities Cr. 3

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. Offered Yearly.

Prerequisite: SED 5030

Restriction(s): Enrollment limited to students in the College of Education.

SED 5110 Introduction to Cognitive Impairment and Educational Interventions Cr. 3

Characteristics, classifications, etiologies, evaluation and learning strategies for the improvement of the learning processes in learners with a cognitive impairment. Offered Fall, Winter.

Prerequisite: SED 5030

Restriction(s): Enrollment limited to students in the College of Education.

SED 5130 Curriculum and Instructional Strategies: Cognitive Impairments Cr. 3

Specialized instructional approaches, evaluation, techniques, curriculum and instructional aids for educating children, youth, and young adults with cognitive impairments within the school and community. Offered Yearly.

Prerequisite: SED 5030 and SED 5110

Restriction(s): Enrollment limited to students in the College of Education.

SED 5140 Behavior Management: Positive Behavior Support Cr. 3

Proactive approaches to dealing with behavioral challenges and social-emotional needs of children and youth; functional behavior analysis, behavior intervention plans. Offered Yearly.

Prerequisite: SED 5030

Restriction(s): Enrollment limited to students in the College of Education.

SED 5260 Effective Instructional Strategies for Exceptional Learners Cr. 3

Effective instructional strategies for students with special needs; multi-level and differentiated instruction, scaffolding, multi-modal instruction. Offered Fall.

Prerequisite: SED 5030 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the College of Education.

SED 5600 Support and Collaboration for Inclusive Teaching Cr. 3

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. Offered Irregularly.

Prerequisite: SED 5010 and SED 5030 and TED 7060

Restriction(s): Enrollment limited to students in the College of Education.

SED 6010 Seminar in Special Education Teaching Cr. 2

Selected topics, problem solving, and reflection on experiences as a student teacher facilitating the learning of children with a mental and/or related disability. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

SED 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. Offered Winter.

SED 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. Offered Fall.

SED 6040 Introduction to Early Childhood Special Education Cr. 3

History, philosophy, legislation, and "best practice" of early intervention and educational programs for young children, birth to eight years old, who have developmental delays or disabilities. Offered Winter.

SED 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. Offered Fall.

SED 7030 Dynamic Assessment in Early Childhood Special Education Cr. 3

Introduction to a variety of assessment tools and instruments and their administration for young children who have developmental delays or disabilities. Focus on linking assessment and intervention "best practices." Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

SED 7760 Teaching Students with Learning Disabilities: K-12 Cr. 3

Methods, materials, and procedures for education of children with learning diversity as they relate to concerns in communication disorders and sciences. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SED 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. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SED 7790 Language Basis of Learning Disabilities Cr. 3

Normal language acquisition and development, language pathology including neurological process involved in speech reception and production, assessment of language disorders as they relate to children and adolescents with learning disabilities. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

SED 7800 Practicum/Internship in Special Education Cr. 1-24

Two-semester sequence. Education of students with disabilities in best practices; implementation of action research project. Focus on area of certification/endorsement. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 24 Credits

SED 7820 Emotional and Behavioral Problems in Children and Adolescents Cr. 3

Diagnosis, instruction, treatment, and support of children and youth classified as having emotional disturbance and behavior disorders. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

SED 7830 Promoting Pro-Social Behavior and Resilience Cr. 3

School- and classroom-based approaches for building resilience, promoting pro-social behavior, preventing emotional difficulties and violence. Emphasis on community-building in the classroom, peer support, understanding needs, and providing social-emotional learning opportunities. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

SED 7840 Advanced Internship in Special Education Cr. 3-6

Individualized internship developed in collaboration with faculty to focus on university teaching, research, leadership and other advanced professional experiences. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

SED 8700 Advanced Seminar in Special Education Cr. 3

Students collaborate with faculty to explore key issues of policy and practice related to education of students with disabilities and special needs. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education or Education Specialist Cert degrees.

SLA - SLAVIC

SLA 2310 Short Fiction from Central Europe and Russia Cr. 3

Explores how writers use short fictional forms, such as parable, short story, fairy tale, and satire, to express important themes in the Central European experience, including violence and cruelty, freedom and imprisonment, utopian visions, and urban life. Offered Fall.

Equivalent: GER 2310

SLA 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3

Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.

Equivalent: ARM 3410, GER 3410, POL 3410, RUS 3410

SLA 3700 The Changing Face of Europe Cr. 1-2

Special topics relating to Central, Eastern and Western Europe. Offered Irregularly.

Equivalent: GER 3700, POL 3700, RUS 3700

SLA 3710 Russian and East European Film Cr. 3-4

Major Russian, Polish, Czech, Ukrainian and Armenian films viewed and discussed from political, historical, cultural and aesthetic points of view. Offered Yearly.

SLA 3750 Polish and Yugoslavian Cinema Cr. 3

Two national cinemas introduced through milestone films and lesser-known cinematic gems produced before and after the fall of communism. Offered Winter.

Equivalent: POL 3750

Repeatable for 4 Credits

SLA 3800 Topics in Slavic Studies Cr. 3

Special topics relating to Slavic languages, literatures and cultures, such as drama, the Gulag, and contemporary Slavic culture. Offered Yearly.

Equivalent: POL 3800, RUS 3810

Repeatable for 9 Credits

SLA 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 7010, FRE 7010, GER 7010, ITA 7010, NE 7010, SPA 7010

SLA 7400 Cultural Studies and Criticism Cr. 3-4

Important concepts and major figures in Slavic contributions to literary and cultural studies. Readings and class in English. Open to students from diverse disciplines. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

SLP - SPEECH AND LANGUAGE PATHOLOGY

SLP 3990 Directed Study Cr. 1-3

Undergraduate study in areas not covered in scheduled curriculum, including library and field work. Offered Fall, Winter.

Repeatable for 4 Credits

SLP 4998 Honors Seminar Cr. 3

Bibliographic and research experiences; review of recent literature; research project. Offered Yearly.

SLP 5080 Phonetics Cr. 3

Multisensory study of sounds in the English language, emphasizing acoustic, physiologic, kinesiologic approaches. Offered Fall, Winter.

Course Material Fees: \$12

Equivalent: LIN 5080

SLP 5090 Anatomy and Physiology of the Speech Mechanism Cr. 3

General science of normal speech; anatomy, physiology and mechanics of respiration, phonation, resonance, articulation. Offered Fall, Spring/Summer.

SLP 5120 Speech Science Cr. 3

Speech production, acoustics of sound, perception of the speech signal. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [SLP 5080 with a minimum grade of C]) AND (May be taken concurrently: [SLP 5090 with a minimum grade of C])

SLP 5300 Introduction to Speech-Language Pathology Cr. 3

Speech-language pathology in clinical and educational settings; classification of communication disorders and related management strategies. Offered Every Term.

SLP 5310 Clinical Methods in Communication Disorders Cr. 3

Procedures and materials for clinical diagnosis of articulatory, language, rhythm, and voice deficits of organic and non-organic causation. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [SLP 5080 with a minimum grade of C]) AND (May be taken concurrently: [SLP 5090 with a minimum grade of C]) AND ([SLP 5300 with a minimum grade of C])

SLP 5320 Normal Language Acquisition and Usage Cr. 3

Language development in children and the associated areas of emotional and motor development; language stimulation techniques and programs. Offered Fall, Winter.

Course Material Fees: \$10

Equivalent: LIN 5360

SLP 5360 Clinical Practice in Speech-Language Pathology Cr. 3

Supervised experience in application of methods of diagnosis and treatment of clinical cases. Offered Every Term.

Prerequisites: ([SLP 5310 with a minimum grade of B]) AND ([SLP 6460 with a minimum grade of B]) AND ([SLP 6480 with a minimum grade of B])

Course Material Fees: \$60

Repeatable for 6 Credits

SLP 6360 Advanced Clinical Practice in Speech-Language Pathology Cr. 3

Supervised experience in application of methods of diagnosis and treatment of clinical cases. Offered for graduate credit only. Offered Every Term.

Prerequisite: SLP 5360 with a minimum grade of B

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$60

Repeatable for 12 Credits

SLP 6460 Language and Phonological Disorders Cr. 3

Introduction to the clinical management of articulation and language disorders. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [SLP 5080 with a minimum grade of C]) AND ([SLP 5300 with a minimum grade of C]) AND ([SLP 5320 with a minimum grade of C])

SLP 6480 Organic and Fluency Disorders Cr. 3

Introduction to the clinical management of cleft palate, voice, and stuttering disorders. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [SLP 5080 with a minimum grade of C]) AND ([SLP 5300 with a minimum grade of C]) AND ([SLP 5320 with a minimum grade of C])

SLP 6640 Language Development and Disorders: Infants and Preschool Children Cr. 3

Theory, assessment and intervention with young children and their families. Emphasizes clinical problem solving, diagnosis, prevention and management in the context of cognitive, linguistic and neurological development. Offered for graduate credit only. Offered Fall.

Prerequisite: SLP 5300 with a minimum grade of C+ and SLP 5320 with a minimum grade of C+

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7000 Research Methods in Communication Disorders Cr. 1

Introduction to methods of research design and methods of analysis (quantitative and qualitative) in speech and hearing sciences and disorders. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7010 Acoustics of Speech Cr. 3

Acoustic consequences of phonetically-relevant articulatory movements. Offered Fall.

Prerequisite: SLP 5080 with a minimum grade of C+ and SLP 5090 with a minimum grade of C+

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7010

SLP 7100 Research Methods: Evidenced- Based Practice Cr. 1

Using evidence-based practice in communication disorders and on methods for conducting original research. Offered Winter.

Prerequisite: SLP 7000 with a minimum grade of C+

Restriction(s): Enrollment is limited to students with a major in Communication Sci & Disorders or Speech-Language Pathology; enrollment is limited to Graduate level students.

SLP 7155 Special Topics in Communication Disorders Cr. 1-4

Lecture and discussion of special topics in communication disorders across the lifespan. Offered Fall.

Prerequisite: SLP 6360 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

SLP 7320 Professional Issues in Speech-Language Pathology Cr. 1

Practice issues, including ethics, scope of practice, multicultural concerns, professional conduct, reimbursement, and professional resources. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7360 Internship in Speech Pathology Cr. 6

Advanced professional experience in clinical speech language pathology. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

SLP 7380 Clinical Process in Speech-Language Pathology Cr. 3

Development of clinical skills and knowledge in diagnostic and treatment processes. Introduction to professional issues, counseling and ethical practices in speech-language pathology practice. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

Repeatable for 9 Credits

SLP 7520 Counseling in Speech-Language Pathology Cr. 1

Basic counseling principles and techniques applied to patients and their family members during evaluation and treatment of communication and swallowing disorders. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Special Educ-Speech Pathology or Speech-Language Pathology; enrollment is limited to Graduate level students.

SLP 7590 Dysphagia Cr. 2

Assessment and management of neurologic and mechanical swallowing disorders in children and adults. Offered Spring/Summer.

Prerequisite: SLP 5090 with a minimum grade of C+

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7600 Phonological Disorders Cr. 3

The etiology, diagnosis and advanced treatment regimens of phonological disorders in children and adults. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7610 Stuttering Cr. 3

The etiology, diagnosis and treatment of stuttering disorders in children and adults. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7620 Voice Disorders Cr. 2-3

The etiology, diagnosis and treatment of voice disorders in children and adults. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7621 Craniofacial Syndromes Cr. 2

Theoretical and applied issues in resonance disorders that result from oral clefting and other craniofacial syndromes. Offered Spring/Summer.

Restriction(s): Enrollment is limited to students with a major in Speech-Language Pathology; enrollment limited to students in the MA in Liberal Arts & Sciences program; enrollment is limited to Graduate level students.

SLP 7630 Neuroscience of Communication Disorders Cr. 3

Neuroscience, neurophysiology, neuropsychology, neuroimaging, normal aging processes and neurodevelopment in speech-language pathology. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7640 Language Disorders in the School-Age Population Cr. 3

Assessment and intervention in assessment, diagnosis, treatment, and management of language and speech disorders in school-age populations. Emphasis on service delivery in context of curriculum and role of speech-language pathologist in school-based practice. Offered Fall.

Prerequisite: SLP 6640 with a minimum grade of C+

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7660 Neuromuscular Speech Disorders Cr. 3

Theory, assessment and intervention in neurologic speech disorders in children and adults (dysarthria, acquired apraxia of speech). Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7680 Acquired Linguistic and Cognitive Disorders in Adults Cr. 4

Theory, assessment, and management/treatment of adult patients with aphasia, traumatic brain injury, right-hemisphere brain damage, and dementia. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7700 Advanced Research Methods in Communication Disorders Cr. 1

Development of advanced research writing skills, for presentation of research in written and oral format. Development of research presentation skills; presentation of research project in departmental forum. Offered Winter.

Prerequisite: SLP 7000 with a minimum grade of C+

Restriction(s): Enrollment is limited to Graduate level students.

SLP 7990 Directed Study Cr. 1-9

Graduate study in areas not covered in scheduled curriculum, including library and field work. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

SLP 7991 Directed Study: PhD Cr. 1-9

Directed research for major, and pilot work for dissertation. Offered Yearly.

Restriction(s): Enrollment is limited to students with a major in Speech-Language Pathology; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

Repeatable for 9 Credits

SLP 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

SLP 8390 Seminar in Speech-Language Pathology Cr. 3

Topics to be announced in Schedule of Classes. No topic may be repeated for credit. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 18 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

SLP 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SLP 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SLP 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SLP 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

SOC - SOCIOLOGY

SOC 2000 Understanding Human Society Cr. 3

Analysis of basic sociological concepts and principles to give the student an understanding of the perspective that sociology brings to the study of human society. Offered Every Term.

SOC 2020 Social Problems Cr. 3

Consideration of major contemporary social problems which reveal structural strains, value conflicts, deviations and changes in society. Analysis of socio-cultural factors creating problems and of possible solutions. Offered Every Term.

SOC 2050 The Study of Non-Violence Cr. 3

Intellectual and social roots of non-violence and the practice of non-violence in different people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.

Equivalent: HIS 2530, PCS 2050, PS 2550

SOC 2100 Topics in Sociology Cr. 3

Specialized and topical studies of sociological themes. Topics to be announced in Schedule of Classes. Offered Every Term.

Repeatable for 9 Credits

SOC 2245 Blacks and Sport in the United States Cr. 3

The intersection between race and sport in the United States, examined to better understand the role of sports in our socialization and cultural construction. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: AFS 2245

SOC 2500 Introduction to Urban Studies Cr. 4

Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban related disciplines. Offered Yearly.

Equivalent: GPH 2000, HIS 2000, PS 2000, US 2000

SOC 2600 Race and Racism in America Cr. 3

Examination of the nature and practice of racism in American society from its historical foundations to its contemporary institutional forms. Offered Biannually.

Equivalent: AFS 2600

SOC 3300 Social Inequality Cr. 4

Structure and process in society, institutions, communities, and organizations. Scientific analysis of organization, conflict, and change in the economy, government, religion, education, and family. Offered Yearly.

SOC 3400 Exploring Marriage and Other Intimate Relationships Cr. 3

Students examine, from a sociological perspective, issues concerning intimate relationships. Major emphasis on description and analysis of changes in monogamous marriage. Non-traditional marital forms also examined. Focus upon the intimate relationships as they relate to personal, functional concerns of the student. Offered Biannually.

SOC 3440 American Medicine in the Twentieth Century Cr. 3

Major historical benchmarks in the making of the medical system in the U.S., including developments in medicine and medical knowledge, as well as social and political factors that influenced their reception and implementation. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: HIS 3440

SOC 3510 People on the Move: International Migration and its Consequences Cr. 3

Birth, death and migration investigated with respect to their social causes and consequences for society and human behavior. International migration will be a major focus of this course, since populations are always shifting in global society. Population growth and development will also be covered. Offered Biannually.

SOC 3710 Learning About Your Community Through Research Cr. 4

Blend of participatory, in-service, and classroom work to enhance undergraduate research skills by linking social science theories and concepts to hands-on community-based learning opportunities. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: LAS 3710

SOC 3840 Corrections Cr. 4

Description and analysis of legal, social and political issues affecting contemporary correctional theory and practice. Topics include: history of corrections, function and social structure of correctional institutions, institutional alternatives including diversion, probation and parole. Field trips to institutions and community correctional settings normally required. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: CRJ 3350

SOC 3990 Directed Study Cr. 1-3

For students who show evidence of ability and interest, and desire to do advanced reading. Part-time and student instructors are ineligible to supervise directed study. Offered Every Term.

Repeatable for 6 Credits

SOC 3991 Directed Study: Salford - WSU Exchange Cr. 3-9

Directed study at University of Salford, England. Offered Fall, Winter.

SOC 4050 Basic Sociological Theory Cr. 4

Introduction to sociological theory from a general conceptual framework. Major concepts, theoretical positions and recent trends in theoretical sociology will be considered. Offered Yearly.

SOC 4100 Social Psychology Cr. 4

An introduction to the major issues in social psychology. Topics such as socialization, social perception, self-conceptions and social definitions of selves and situations. Offered Every Term.

SOC 4200 Methods of Social Research Cr. 4

An elementary research methods course that covers the process of doing social research, including research design, data collection techniques, processing and analysis of data, as well as the interpretation of data. Offered Yearly.

SOC 4220 Introduction to Social Statistics Cr. 4

Introduction to major concepts in social statistics including level measurement, distributions, probability and bivariate hypothesis testing. Discussion of the role that statistics play in discussions and popular understandings of social issues Offered Yearly.

SOC 4360 Women and Health Cr. 4

Analysis of sociological issues surrounding women and health, including gender differences in morbidity and mortality, the use of health services, interaction with providers, gender differences in mental disorder, alcoholism, drug abuse, gender roles and the professions of physicians and nurses. Offered Every Term.

SOC 4460 Women in Society Cr. 3

In-depth investigation of the living and working conditions of women in the world today, with a particular emphasis on the impact of socioeconomic changes on the lives of women (including their relationships with men). Offered Yearly.

SOC 4600 Internship in Sociology Cr. 3

Sociology majors or minors volunteer at a local organization or agency that relates to their career interests. Assignments include completing internship hours, keeping a journal, completing a resume, and writing a research paper. Offered Biannually.

Prerequisites: ([SOC 2000 with a minimum grade of D-]) AND ([SOC 3300 with a minimum grade of D-]) AND ([SOC 4200 with a minimum grade of D-])

SOC 4800 Outsiders and Deviants Cr. 4

Definition and characteristics of behaviors which have, at times, been considered deviant, such as: criminality, mental illness, alcoholism, drug addiction, abortion, prostitution, and pornography. Interdisciplinary theories introduced to facilitate understanding of those behaviors, their diagnosis, management, control, and prevention. Offered Every Term.

Equivalent: CRJ 4800

SOC 4996 Sociology: Capstone Course Cr. 4

Students choose a specific researchable topic related to the discipline and explore possible theoretical approaches. In addition, students develop a research proposal related to a topic which will include research methodology. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [SOC 2000 with a minimum grade of D- and SOC 1000]) AND ([SOC 3300 with a minimum grade of D-]) AND ([SOC 4050 with a minimum grade of D-]) AND ([SOC 4200 with a minimum grade of D-]) AND ([SOC 4220 with a minimum grade of D-])

SOC 5010 Selected Sociological Topics Cr. 1-4

Topics to be announced in Schedule of Classes. Offered Yearly.

Repeatable for 20 Credits

SOC 5020 End-of-Life Issues Cr. 3-4

Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.

SOC 5360 Introduction to Medical Sociology Cr. 4

Topics include the definition of illness, the distribution of death and disease in society, health promotion, help-seeking behavior, socialization of health care providers, the delivery of health care, and health care reform. Offered Yearly.

SOC 5400 The Family Cr. 3

An introduction to the sociology of the family: forms of organization, interaction patterns throughout the life cycle, ethnic and cultural differences, conflict and change. Especially useful for students in social work, counseling, family and consumer resources, nursing and education, as well as the other social sciences. Offered Every Term.

SOC 5410 Marriage and Family Problems Cr. 3

Social and historical context of marriage and family problems. Power, conflict, communication and crisis as they relate to the nature and dynamics of the family. Problem solving techniques; specific family problems: divorce or child abuse. Offered Every Term.

SOC 5570 Race Relations in Urban Society Cr. 3

Theoretical orientations applied analytically to enhance an understanding of the patterned structures of privilege in society which are based on race. Inequality, segregation-desegregation, pluralism; social structural frameworks; some attention to social-psychological aspects of topics such as prejudice and racism. Offered Yearly.

Equivalent: AFS 5570

SOC 5580 Law and the African American Experience Cr. 4

In-depth examination of the African American experience with law in the U.S.; historical development of the U.S. Constitution; legal barriers to equality and the influence of race on the law; use of law as a political instrument; participation of blacks in the legal process; comparisons with other countries. Offered for undergraduate credit only. Offered Biannually.

Restriction(s): Enrollment is limited to Undergraduate level students.

Equivalent: AFS 5580

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. Offered Yearly.

SOC 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. Offered Yearly.

SOC 5810 Law in Human Society Cr. 3

Law and the legal structure in its social context. The development, enforcement and interpretation of law; emphasis on the American system of government. Reciprocal effects of law and the society in which it develops; comparative analysis. Designed for pre-law, criminal justice, and political science students, as well as for sociology majors. Offered Yearly.

Equivalent: CRJ 5810

SOC 5870 Violence in the Family Cr. 3

Analysis of the nature of violence in family and family-like relationships; prevalence and types of family violence; social and social psychological correlates of violence in families. Offered Yearly.

SOC 6050 Sociological Theory Before 1920 Cr. 4

Sociological theorists before 1920, their thought and the historical context in which such thought developed. Offered Yearly.

Prerequisite: SOC 2000 with a minimum grade of C-

SOC 6060 Sociological Theory Since 1920 Cr. 4

Historical and theoretical analysis of sociological thought in the present century. Current trends in sociological theory. Offered Yearly.

Prerequisite: SOC 6050

SOC 6280 Social Statistics Cr. 4

Basic techniques for organizing and describing social data, measures of central tendency and dispersion, probability theory and hypothesis testing, tests of significance and confidence intervals, measures of association for two variables, analysis of variance. Offered Yearly.

Prerequisite: SOC 4220 with a minimum grade of D-

SOC 6290 Advanced Social Statistics Cr. 4

Multiple and partial correlation and multiple regression, dummy variable analysis, analysis of covariance, causal models for multi-dimensional contingency tables, path analysis techniques, introductory factor analysis, Markov chains, selected additional topics. Offered for graduate credit only. Offered Yearly.

Prerequisite: SOC 6280 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

SOC 6455 Discrimination and Fair Housing Cr. 3

Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Biannually.

Equivalent: AFS 6455, ECO 6455, PS 6455, UP 6455, US 6455

SOC 6580 Applied Sociology I: Research and Theory in Applied and Clinical Settings Cr. 4

Topics include the analysis of applied sociological theory and research design and ethical issues in applied and clinical social science projects, with emphasis on writing skills in applied and clinical research and theory. Offered Yearly.

SOC 6590 Applied Sociology II: Strategies for Changing Social Behavior Cr. 4

Analysis of practical sociological strategies for promoting the change of social behavior. Focus on behavior of the individual, small group, and the community structural levels. Means of evaluating effectiveness of change strategies. Materials drawn from theory and practice in sociology and related social sciences. Offered Yearly.

SOC 6750 Sociology of Urban Health Cr. 4

Review of theories and research on health status and health care delivery issues in urban communities. Offered Irregularly.

SOC 7000 Internship in Applied Sociology Cr. 3

Guided internship with Detroit metropolitan private and public organizations arranged and supervised through the Program in Applied Sociology and Urban Studies. Offered Yearly.

Prerequisite: SOC 6580 with a minimum grade of C and SOC 7200 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7010 Special Topics Cr. 1-16

Topics to be announced in Schedule of Classes . Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 16 Credits

SOC 7020 End-of-Life Issues Cr. 3-4

Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: ANT 7430, NUR 7515

SOC 7030 Proseminar Cr. 4

Introduction to the profession of sociology. Delineation of some major subfields, particularly department emphasis. Preparing professional papers, proposals, oral presentations. Development of theoretical models. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Sociology; enrollment is limited to Graduate level students.

SOC 7100 Women and Health Cr. 4

Analysis of sociological issues surrounding women and health, including gender differences in morbidity and mortality, the use of health services, interaction with providers, gender differences in mental disorder, alcoholism, drug abuse, gender roles and the professions of physicians and nurses. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7200 Advanced Survey of Approaches and Techniques of Social Research Cr. 4

Advanced conceptual treatment of the primary concerns of social research: perspectives and types of social research, research designs, sampling techniques, data-gathering techniques and instrument construction, data analysis and presentation, interpretation and reporting of the results. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7270 Analysis of Evaluation Data Cr. 3

Focuses on the analysis of causal effects for program evaluation data using both experimental and observational data. Models for the estimation of causal effects from experimental design are presented, including models for individual and cluster-level randomized trials, models for factorial and fractional experimental designs, and models for implementation fidelity. Models for the estimation of causal effects from non-experimental observational data include regression discontinuity analysis, propensity score methods, inverse probability weighting, sensitivity analysis to estimate selection bias and the estimation of effect bounds. Offered Winter.

Prerequisites: ((SOC 6280 with a minimum grade of C) AND ((SOC 6290 with a minimum grade of C) AND ((SOC 7200 with a minimum grade of C) AND ((SOC 7260 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7280 Analysis of Complex Survey Data Cr. 3

Provides students the tools for analyzing complex, and often longitudinal, data sets with the use of statistical software packages such as SPSS and SAS. Offered Winter.

Prerequisites: ((SOC 6280 with a minimum grade of C) AND ((SOC 6290 with a minimum grade of C) AND ((SOC 7200 with a minimum grade of C) AND ((SOC 7260 with a minimum grade of C)

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7330 Class, Race, and Politics in America Cr. 3

Historical and analytic investigation into the role of class and race in American politics. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AFS 6100, HIS 5110, PS 6050, UP 7030

SOC 7350 Urban Poverty and Racial Segregation Cr. 3

Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of the "underclass" debate. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AFS 6600, ANT 7260, PS 7260, UP 7260

SOC 7500 Advanced Qualitative Methods Cr. 4

Advanced analysis of qualitative methods, including but not limited to in-depth interviewing, focus groups, ethnography, discourse analysis, field research, narrative analysis. Stages of sampling, data collection, coding, and data analysis. No credit after SOC 7170. Offered Yearly.

Prerequisite: SOC 7260 with a minimum grade of B-

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7770 Seminar in Medical Sociology Cr. 4

Converging issues of theory, research and practice in general hospitals, mental hospitals, and nursing homes. Structure of institutions and the adaptation of individuals within them. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7990 Directed Study Cr. 1-6

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

SOC 7995 Directed Teaching in Sociology Cr. 1

Students work under the direction of a member of the graduate faculty; planning lectures, handling class discussions, preparing exams, and grading introductory sociology students. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 7999 Master's Essay Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

SOC 8400 Seminar in Sociology of the Family Cr. 3

Theoretical orientations and applications to family issues. Substantive topics will vary but include changing family structures and life styles, socialization/parenting, family/gender roles, family interaction/communication/power, crisis/stress, divorce/remarriage, and families over the life course. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 8700 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 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. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 8805 Sociology of Urban and Labor Studies Cr. 4

Graduate seminar which provides the theoretical foundations of the area of urban and labor sociology. Topics include: the labor process, labor markets, labor movements, globalization and work, race and inequality in urban contexts, power and politics, and migration. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SOC 8990 Directed Study Cr. 2-6

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

SOC 8999 Master's Thesis Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

SOC 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SOC 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SOC 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SOC 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

SOC 9999 Doct Diss Rsch&Dir Cr. 1-16

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to Graduate level students.

SPA - SPANISH

SPA 1010 Elementary Spanish I Cr. 4

Introduction to the Spanish language and Hispanic culture through interactive and communicative reading, writing, listening and speaking activities to develop language and cultural proficiency. No experience with Spanish is needed. Offered Every Term.

Course Material Fees: \$5

SPA 1020 Elementary Spanish II Cr. 4

Continuing study of the Spanish language and Hispanic culture through interactive and communicative reading, writing, listening and speaking activities to develop language and cultural proficiency. Offered Every Term.

Prerequisites: ((SPA 1010 with a minimum grade of D-))

Course Material Fees: \$5

SPA 1060 Elementary Spanish I and II Cr. 6

Designed for students with previous experience with Spanish or another Romance language who would like an abbreviated review before continuing their studies. The first third of the semester is an accelerated review of SPA 1010; the remainder of the semester covers SPA 1020 coursework. Offered Every Term.

Course Material Fees: \$5

SPA 2010 Intermediate Spanish Cr. 4

Continuing study of the Spanish language and Hispanic culture through interactive and communicative reading, writing, listening and speaking activities to develop language and cultural proficiency. Completion of this course fulfills the General Education requirement for foreign language and culture. Offered Every Term.

Prerequisites: ((SPA 1020 with a minimum grade of D-) OR [SPA 1060 with a minimum grade of D-])

Course Material Fees: \$5

SPA 2025 Cultural Connections, Grammar and Composition I Cr. 3

Cultural readings and situations to continue to improve ability to speak, read, write and listen in the Spanish language. Offered Every Term.

Prerequisites: ((SPA 2010 with a minimum grade of D-))

Course Material Fees: \$5

SPA 2400 Chicano/a Literature and Culture Cr. 3

Examination of Chicano literature. Themes and figures in a social and historical context. Offered Biannually.

Equivalent: LAS 2100

SPA 2500 Puerto Rican Literature and Culture Cr. 3

Examination of Puerto Rican literature. Themes and figures in a social and historical context. Offered Biannually.

Equivalent: LAS 2110

SPA 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4

A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus, and Unamuno. Offered Biannually.

Equivalent: FRE 2700, GER 2700, ITA 2700, RUS 2700

SPA 2990 Topcs: Romnce Stdys Cr. 3

Offered Fall, Winter.

Equivalent: FRE 2990, ITA 2990

SPA 3025 Cultural Connections, Grammar and Composition II Cr. 3

Cultural readings and situations to continue to improve ability to speak, read, write and listen in the Spanish language, with an emphasis on vocabulary building and critical thinking. Offered Every Term.

SPA 3040 Commercial Spanish Cr. 3

Commercial Spanish for basic business, legal and banking transactions and correspondence; terminology used in banking, commerce, accounting and marketing; emphasis on translation and format of commercial documents and letters. Offered Irregularly.

SPA 3050 Spanish for the Health Care Profession Cr. 3

General review of pertinent grammar and specific vocabulary groups relating to specific tasks in the health care professions. Discussions leading to cultural competencies. Exploration of cultural and social factors for communicating with Spanish-speaking patients. Offered Biannually.

SPA 3200 Conversation Cr. 3

Informal class conversations, debates and oral reports to reinforce grammatical principles and to improve pronunciation through practice and imitation. Offered Biannually.

SPA 3300 Introduction to Cultural and Literary Analysis Cr. 3

Discussion of literary and cultural readings from Spain and Spanish America; vocabulary building; speaking and reading emphasized. Offered Yearly.

Prerequisites: ((SPA 3100 with a minimum grade of D-))

SPA 3800 Spanish for Heritage Learners Cr. 3

Review of grammar and composition for Spanish heritage learners. Conducted entirely in Spanish. Offered Fall.

Equivalent: LAS 3800

SPA 4610 Introduction to Early Modern Spanish Literature Cr. 3

Spanish literature from the Renaissance to 1700. Offered Yearly.

Prerequisites: ((SPA 3300 with a minimum grade of D-))

SPA 4620 Introduction to Modern and Contemporary Spanish Literature Cr. 3

Spanish literature from 1700 to the present. Offered Yearly.

Prerequisites: ((SPA 3300 with a minimum grade of D-))

SPA 4630 Introduction to Colonial Latin American Literature Cr. 3

A historically and culturally situated introduction to the literature of Early Latin America. Offered Yearly.

Prerequisites: ((SPA 3300 with a minimum grade of D-))

SPA 4640 Introduction to Modern and Contemporary Latin American Literature Cr. 3

Literature in the twentieth and twenty-first century. Offered Biannually.

Prerequisites: ((SPA 3300 with a minimum grade of D-))

SPA 5000 Minor Language Practicum Cr. 3

Controlled application of active language skills for students electing a Ph.D. minor in Spanish. No degree credit toward Ph.D. Offered for graduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

SPA 5100 Advanced Composition Cr. 3

Study and utilization of Spanish in written form: colloquial usage, literary Spanish, commercial Spanish, idiomatic expressions. Brief compositions and translation exercises. Conducted entirely in Spanish. Offered Yearly.

Prerequisites: ((SPA 3100 with a minimum grade of D-))

SPA 5200 Spanish Phonetics Cr. 3

A systematic study of Spanish sounds; conducted in Spanish. Offered Biannually.

Prerequisites: ((SPA 3100 with a minimum grade of D-))

SPA 5300 Advanced Grammar and Stylistics Cr. 3

Intensive study of grammar and syntax. Free composition and conversation. Conducted in Spanish. Offered Biannually.

Prerequisites: ((SPA 5100 with a minimum grade of D-))

SPA 5400 Introduction to Professional and Literary Translation Cr. 3
Introduction to the practice and principles of translation, both from English to Spanish and Spanish to English, for intermediate to advanced Spanish students. Practice in translating: literary works, legal and medical documents, commercial advertisements, and other texts, while becoming familiar with the history and aspects of the theory of translation. Students will become aware of the importance of translation in areas such as cultural diplomacy, literary studies, law, business and medicine. Offered Biannually.

Prerequisites: ([SPA 3100 with a minimum grade of D-])

SPA 5550 Spanish Culture and Its Tradition Cr. 3

Spain's cultural history: painting, sculpture, architecture and music, through films, records, newspapers, and other texts. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 5560 Spanish American Cultures and their Traditions Cr. 3

Spanish America before and after the discovery of the New World. Art, music, customs, contemporary institutions, through films, records, newspapers, gallery visit to Detroit Institute of Art, and the text. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

Equivalent: LAS 5560

SPA 5570 Topics in Hispanic Culture or Language Cr. 3

Specific themes, genres, movements or periods. Topics to be announced in Schedule of Classes. Offered Yearly.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 5600 Advanced Conversation Cr. 3

Development of advanced conversation skills for Spanish majors and minors. Students will learn strategies to effectively engage in conversations, discussions, debates, and oral presentations. The course is also designed to increase students' awareness of current cultural processes in the Hispanic world through the oral discussion and analysis of readings, cinema, digital media, and other forms of cultural production. Offered Fall.

Prerequisites: ([SPA 3300])

SPA 5990 Directed Study Cr. 1-4

Offered Every Term.

Repeatable for 8 Credits

SPA 6400 Introduction to Hispanic Linguistics Cr. 3

Principles of linguistics and their application to Spanish. Offered Biannually.

Prerequisite: SPA 5200 with a minimum grade of C-

SPA 6410 Spanish Medieval Literature: Origins to 1500 Cr. 3

Main currents and masterworks of Spanish literature from its origins to 1500. (Formerly SPA 6500.) Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6420 Early Modern Spanish Studies Cr. 3

Literary genres of the early modern period (poetry and narrative: picaresque, pastoral, morisco, and chivalric). Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6430 Spanish Literature of the Baroque Period Cr. 3

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.) Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6440 Spanish Literature of the Eighteenth Century Cr. 3

Literature of the Spanish Enlightenment; major works and literary trends and movements in the Spanish eighteenth century up to Romanticism. (Formerly SPA 6520.) Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6450 Spanish Romanticism Cr. 3

Origins and development of Romanticism in Spain: theatre, poetry, costumbrismo, and other narrative. (Formerly SPA 6520.) Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6460 The Spanish Novel of the Nineteenth Century Cr. 3

Representative works of the Realist and Naturalist movements. (Formerly SPA 6993.) Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6470 The Spanish Novel of the Twentieth Century Cr. 3

Novelists of the twentieth century, including those of the Silver Age (1900-1936) and those associated with Tremendismo, Social Realism, and the contemporary experimental novel. (Formerly SPA 6993.) Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6490 Spanish Poetry of the Nineteenth and Twentieth Centuries Cr. 3

Representative figures and trends in Modern and contemporary Spanish poetry. Post-Romanticism, Symbolism, the Silver Age (1900-1936), and contemporary poetry. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6560 Cervantes Cr. 3

A detailed study of Don Quijote. Other short works of Cervantes. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6570 The Comedia Cr. 3

Analysis of plays by Lope de Vega, Tirso de Molina, Calderon, Maria de Zayas and other dramatists of Spain's Golden Age. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6590 Genres and Topics in Peninsular Spanish Literature Cr. 3

Topics such as twentieth-century Spanish theatre, the Picaresque novel, and eighteenth-century Spanish theatre, to be announced in Schedule of Classes. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

Repeatable for 9 Credits

SPA 6600 Colonial Latin American Studies Cr. 3

The writing of Colonial Latin America. Cultural encounter and negotiation seen through literature, history and the arts. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6620 Latin American Novel in the 20th and 21st Centuries Cr. 3

Roots of the modern novel in Spanish America; its stages of evolution through the vanguard period into the contemporary stage, with emphasis on representative figures such as Carpentier, Cortazar, and Garcia Marquez. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6630 Spanish American Poetry Cr. 3

Major figures of the twentieth century and their texts, from the Vanguard period to contemporary poetry. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6670 Latin American Novel to 1900 Cr. 3

Late colonial period to 1900. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6690 Genres and Topics in Spanish American Literature Cr. 3

Topics in the literature of Spanish America, such as the short story or theatre, to be announced in Schedule of Classes. Offered Biannually.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

Repeatable for 9 Credits

SPA 6700 Spanish Literature of the Silver Age: 1900-1936 Cr. 3

Writers of the first three decades of the twentieth century; current narratological theories applied to intertextual maneuvers and philosophical concepts. Offered Irregularly.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 6710 Unamuno's Existential Fiction Cr. 3

Important novels of Miguel de Unamuno; emphasis on characters and their agonization in a circumscribed area. Offered Irregularly.

Prerequisites: ([SPA 4610 with a minimum grade of D] OR [SPA 4620 with a minimum grade of D] OR [SPA 4630 with a minimum grade of D] OR [SPA 4640 with a minimum grade of D])

SPA 7010 Introduction to Literary Theory Cr. 3

Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: CLA 7010, FRE 7010, GER 7010, ITA 7010, NE 7010, SLA 7010

SPA 7510 History of the Spanish Language Cr. 3

Origins, development and linguistic status of the Spanish language in Spain and Spanish America. Offered Biannually.

Prerequisite: SPA 5200 with a minimum grade of C-

Restriction(s): Enrollment is limited to Graduate level students.

SPA 7770 Special Studies in Spanish Literature Cr. 3

Study of the works of an outstanding writer, a literary genre, or literary trends. Offered Fall, Winter.

Prerequisites: ([SPA 6410 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

SPA 7996 Research Project Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

SPA 7999 Master's Essay Direction Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

SPA 8420 Seminar in Hispanic Linguistics Cr. 3

Seminar topics will vary according to the principal divisions of Spanish linguistics: phonology, morphology, lexicography, syntax, and dialectology. Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: LIN 7320

Repeatable for 9 Credits

SPA 8510 Seminar in the Golden Age Cr. 3

Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

SPA 8530 Seminar in Spanish Literature of the Eighteenth and Nineteenth Centuries Cr. 3

Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

SPA 8550 Seminar in Spanish Literature of the Twentieth Century Cr. 3

Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

SPA 8610 Seminar in Spanish American Narrative Cr. 3

Narrative genres in Spanish America including short story, essay, novel, short novel; development, history, period characterization. Topics to be announced in Schedule of Classes. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 9 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

SPA 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Research in preparation for doctoral dissertation. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SPA 9991 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SPA 9992 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Prerequisite: SPA 9993 with a minimum grade of S

Restriction(s): Enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

Repeatable for 0 Credits

SSE - SOCIAL STUDIES EDUCATION

SSE 5720 Social Studies Disciplines for Elementary Teachers Cr. 3

A review of the major concepts of history, geography, political science, and economics to plan for learning in a K-8 setting. Offered Every Term.

SSE 6710 Methods and Materials of Instruction in Secondary Social Studies Cr. 3

Foundations of social studies instruction and curriculum; methods of teaching in middle and senior high school, including the use of state standards in the design of instruction, teaching approaches for the various social studies disciplines, their interdisciplinary application, diversity and appreciation of other cultures. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

SSE 6720 Teaching the Interdisciplinary Knowledge of Social Studies Cr. 3

Building interdisciplinary knowledge and pedagogical skills in the social studies, including media literacy. Offered Fall.

SSE 6730 New Perspectives in Social Studies Education Cr. 3

Development of curricular lesson plans, unit plans, and other teaching strategies utilizing current approaches in social studies education. Offered Winter, Spring/Summer.

Restriction(s): Enrollment limited to students in the College of Education.

SSE 7780 Readings in the Social Studies Cr. 3

A reading seminar with emphasis on content and teaching strategies for social studies education. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SSE 8740 Graduate Seminar in Social Studies Education Cr. 3

Application of theories of social education to curricular designs and innovative instruction pertaining to Detroit's past and present, integrated with visits to cultural sites. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

STA - STATISTICS

STA 1020 Elementary Statistics Cr. 3

Descriptive statistics, correlation and regression, notions in probability, binomial and normal distributions, testing hypothesis. Offered Every Term.

STE - SUSTAINABLE ENGINEERING

STE 5410 Energy, Emissions, Environment (E3) Design Cr. 4

Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources including US EPA, DOE, EIA, and the latest in emerging research. Offered Fall.

Equivalent: AET 5410, CE 5410

STE 6100 Introduction to Sustainable Engineering Cr. 3

Economic, environmental, social, and technological perspectives relevant to the design, operation and management of engineering activities. Multiple perspectives addressed from a system sustainability view point. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Equivalent: CHE 6100

STE 6270 Sustainability Assessment and Management Cr. 3

Sustainability assessment and management for engineering design and development; theoretical, regulatory, and practical implications; Detroit and global applications. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to Graduate level students.

Equivalent: CE 6270

STS - STUDY SKILLS

**STS 0400 Wayne Med Direct Pre-Freshman Summer Enrichment Program
Cr. 0**

Offered in the Summer semester prior to the freshman year to entering Wayne Med-Direct scholars, the course is designed as an orientation to campus life and the Med-Direct program. Successful completion of this course is mandatory for all Wayne Med-Direct scholars. Offered Spring/Summer.

STS 0900 Pres M Roy Wilson Sum Build Pr Cr. 0

Offered Spring/Summer.

SW - SOCIAL WORK

SW 1010 Introduction to Social Work and Social Welfare Cr. 3

Survey of selected social welfare programs in the United States; history and development; focus on issues related to poverty and dependence. Offered Fall, Winter.

SW 3010 Social Work Practice Method I Cr. 4

First of four courses providing knowledge, skills and framework for entry level generalist practice including a service learning project. Offered Fall.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3020 Social Work Practice Method II Cr. 3

Continuation of four-course sequence. Introduction to a problem-solving guide for effecting situational change; emphases on assessment in the problem-solving process and on social work-client interactions during the middle and ending phases of social work intervention. Comparing and contrasting social work knowledge, skills and dynamics in social work practice with individuals and small groups; Analysis of student experience in the social work practicum. Offered Winter, Spring/Summer.

Prerequisite: SW 3010 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3030 Professional Writing for Social Workers Cr. 2

Introduces social work students to professional social work writing. Designed to create a foundation for grammar, usage, style, and genre-specific writing for use in all practice settings. Offered Fall.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3110 Diversity, Oppression and Social Justice Cr. 3

Diverse cultures, family structure, roles, immigration and assimilation experiences of marginalized groups; influence of dominant culture on these groups. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3410 Foundations of Ethics and Values in Social Work Cr. 3

Beginning course in the principles, values and ethics which underlie the profession of social work. Meaning of concepts and process of thinking about and resolving ethical dilemmas, the promotion of ethical questions, and knowledge of their historical contexts. Critical interpretation and evaluation of philosophical texts, positions, and arguments. Offered Winter, Spring/Summer.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Social Work.

SW 3510 Human Behavior in the Social Environment Cr. 3

Ecological systems perspective presented. Knowledge and theories of human development across the life span. Human behavior studied within the context of the social systems in which people live, including families, peer groups, organizations, and communities. Emphasis on how social systems promote and deter human development and the influence of diversity on human development. Offered Fall.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3710 Social Welfare and the Social Work Profession: History, Trends and Basic Concepts Cr. 3

History of social welfare in the United States. Basic concepts of social welfare. The profession of social work in historical perspective. Current trends and issues in social welfare and in the profession of social work. Offered Fall.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3810 Research Methods, Data Analysis, and Practice Evaluation I Cr. 3

Descriptive research methods for social work concepts and skills of problem formulation; research design; description and critical analysis of research studies; integration of descriptive statistics and data analysis within social work context. Offered Winter.

Prerequisites: (May be taken concurrently: [MAT 0993 with a minimum grade of CNC] OR [MAT 0900 with a minimum grade of CNC] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 10000-19999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 00000-09999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 20000-29999] OR [MAT Permit to Reg ACT/SAT with a test score minimum of 30000-39999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 10000-19999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 20000-29999] OR [Math Permit to Reg - (L00-L03) with a test score minimum of 30000-39999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 10000-19999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 20000-29999] OR [MQE Math Permit to Reg-(L0-L3) with a test score minimum of 30000-39999] OR [MAT 2010 with a minimum grade of C-] OR [MAT 1000 with a minimum grade of C-] OR [MPR2/MPE is outdated with a test score minimum of 30000-99999] OR [MPR2/MPE is outdated with a test score minimum of 20000-99999] OR [MPR2/MPE is outdated with a test score minimum of 10000-99999] OR [MPR1/ACTMath is outdated with a test score minimum of 30000-99999] OR [MPR1/ACTMath is outdated with a test score minimum of 20000-99999] OR [MPR1/ACTMath is outdated with a test score minimum of 00000-99999] OR [MPR1/ACTMath is outdated with a test score minimum of 10000-99999])

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4010 Social Work Group Theory and Practice Cr. 3

Social work practice related to groups; knowledge and theories related to groups. Offered Fall, Spring/Summer.

Prerequisite: SW 3020 with a minimum grade of D- and SW 4998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4020 Social Work Macro Theory and Practice Cr. 3

Emphasizes knowledge, theory and practice in organizations, neighborhoods and communities. Students will learn a range of macro practice assessment and intervention skills to solve problems in social service organizations, social welfare systems, and communities for the purpose of empowerment, social and economic justice, and social change. Offered Fall, Winter.

Prerequisite: SW 4010 with a minimum grade of D- and SW 4998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4441 Field Education Seminar I Cr. 1

Understanding the learning experience through critical reflection on field and course work. Offered Fall, Spring/Summer.

Prerequisite: SW 4998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Social Work.

SW 4442 Field Education Seminar II Cr. 1

Understanding the learning experience through critical reflection on field and course work. Offered Fall, Winter.

Prerequisite: SW 4998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Social Work.

SW 4443 Field Education Seminar for Block Placement Cr. 2

Understanding of the learning experience through critical reflection on field work and the integration of content from completed courses, all of which help students define themselves as social work professionals. Offered Winter, Spring/Summer.

Prerequisite: SW 4020 with a minimum grade of C- and SW 4998 (may be taken concurrently) with a minimum grade of C-

Restriction(s): Enrollment is limited to Undergraduate level students.

SW 4710 Social Welfare in the United States: Current Programs Cr. 3

Description and analysis of major social welfare programs in the United States. Offered Fall.

Prerequisite: SW 3710 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4810 Research Methods, Data Analysis, and Practice Evaluation II Cr. 3

Continuation of S W 3810. Integration of descriptive and inferential statistics and components of quantitative and qualitative designs appropriate for evaluating service delivery and related policy. Offered Fall.

Prerequisite: SW 3810 with a minimum grade of D-

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4990 Directed Study Cr. 1-4

Individual direction in reading and research on selected topics. Offered Every Term.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

Repeatable for 4 Credits

SW 4991 Special Topics in Social Work Cr. 1-4

Topics of current interest to be announced in Schedule of Classes . Offered Every Term.

SW 4997 Integrative Seminar in Social Work Cr. 3

This capstone course provides a framework to assist students in reviewing, analyzing and integrating their theoretical knowledge with their practice experience. Students demonstrate that they have acquired the knowledge, skills, and values needed to be competent and ethical B.S.W. level generalist practitioners. Satisfies the General Education Writing Intensive requirement. Offered Fall, Winter.

Prerequisite: SW 4010 with a minimum grade of D- and SW 4998 (may be taken concurrently) with a minimum grade of M and SW 4020 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4998 Field Practice in Social Work Cr. 1-10

The ratio of clock hours to credits is 46 to 1. Field practicum for senior-level students in the BSW program. Field placements assigned by the Coordinator of Field Education. Offered Every Term.

Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

Course Material Fees: \$35

Repeatable for 10 Credits

SW 5720 Social Services for Older Adults Cr. 3

Identification, description and analysis of the problems associated with aging; development of social work services to address these needs. Offered Yearly.

SW 5755 Introduction to Child Welfare Cr. 3

Introduction and overview of child welfare services and practice with focus on a wide range of Issues related to children and youth in care and those in need of protection from abusive and/or neglectful caretakers and environments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6010 Family Centered Collaboration in Early Childhood Intervention and Special Education Cr. 3-4

Theories, concepts and practices of family centered intervention services for young children with special needs. Team-building and cross-disciplinary communication and collaboration with families. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6100 Child Welfare and Social Systems: Context for Case Management Practice Cr. 3

knowledge base for Child Welfare practice within the context of mental health, education, juvenile justice and other social systems with a significant focus on the social problems of domestic violence and substance abuse. Core case management intervention skill sets utilized for effective child welfare practice will be taught. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6500 Social Work and the Law Cr. 2

Study of the relationship between law and social work practice. Emphasis on understanding the legal processes, the relationship and interdependence of law and social work practice and the knowledge and skill needed to help integrate law into social work practice. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6535 Youth, Delinquency, and Juvenile Justice Cr. 2-4

Provides an in depth understanding of the causes and implications of youth involved in the juvenile justice arena, focusing on assessments and social work interventions in a transcultural, multisystem context. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6540 Effects of Drugs and Alcohol on Physical and Social Functioning Cr. 3

Types of substances most frequently abused, their effects on physiological, psychological, social and physical functioning, and patterns of use among different age groups and populations. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6700 Disabilities in Urban Society: Special Topics Cr. 3

Topics central to understanding living with disabilities across the life span in an urban society. Implications for persons with disabilities, their families and advocates, and their service providers. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 6740 Seminar in Disability Studies: Directed Study Cr. 3

Integration of theoretical and practical knowledge acquired in Graduate Certificate in Disabilities program within context of the discipline and area of interest of the student. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students in the GC in Disabilities program; enrollment is limited to Graduate level students.

SW 6750 Practicum in Disabilities: Research Topics Cr. 4

Supervision and direction of students as they apply their knowledge and skills in an interdisciplinary, service-oriented department. Work with professionals from other disciplines and consumers of disability-related services; development of leadership and teamwork skills. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students in the GC in Disabilities program; enrollment is limited to Graduate level students.

SW 6991 Special Topics in Social Work Cr. 1-4

Topics of current interest to be announced in Schedule of Classes. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

SW 7010 Infant Mental Health Practice Cr. 1-2

Intervention strategies to enhance normal infant development as an aspect of parenting skills. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7025 Infant Mental Health: Theory to Practice across Early Childhood Settings Cr. 2

Theories and research-based information on infant mental health practices applied to various early childhood settings. Emphasis on interdisciplinary, relationship-based interventions aimed to promote development and learning in infants and young children. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7040 Methods of Social Work Practice Cr. 3

Basic theories and principles of practice including a strengths perspective with diverse individuals and families. Emphasis on basic values, roles, skills of generalist social work practice; and on ecological systems perspective and practice principles with at-risk and oppressed populations. Skills of empowerment to achieve individual and collective social and economic justice. Offered Fall.

Prerequisite: SW 7998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment is limited to Graduate level students.

SW 7055 Foundation Group Theory and Practice Cr. 3

Ecological systems perspective used to critically assess influence of mezzo systems on human behavior and their consistency with social values and ethics. Use of strengths perspective with diverse groups within generalist practice. Group types, process, dynamics, leadership. Planning of groups, interventions, social and economic justice. Offered Winter.

Prerequisite: SW 7998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment is limited to Graduate level students.

SW 7065 Foundation Macro Theory and Practice Cr. 3

Ecological systems perspective used to critically assess influence of macro system on human behavior and their consistency with social values and ethics. Generalist practice and strengths perspective. Practice with diverse communities and organizations, particularly at-risk populations. Needs assessment skills; promotion of macro change and social and economic justice in an urban context. Offered Winter.

Prerequisite: SW 7998 (may be taken concurrently) with a minimum grade of M and SW 7040 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

SW 7070 Bridge: Micro & Mezzo Practice and Theory Cr. 4

Integrative summer bridge for advanced standing students. Practice and theoretical principles guiding social work intervention at the micro and mezzo level will be reviewed; emphasis will be given to the impact of diversity and unique concerns of populations at risk. Offered Spring/Summer.

Prerequisites: (May be taken concurrently: [SW 7070])

Corequisite: SW 7620

Restriction(s): Enrollment is limited to Graduate level students.

SW 7085 Social Work Leadership Strategies Cr. 3

Leadership theories, applications and skill development. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7140 Biomedical Components of Substance Use and Addiction Cr. 3

An examination of the bio-psychosocial aspects of substance use, addiction and recovery. Provides a broad scientific perspective on different classes of drugs and misused substances. Focuses on understanding brain anatomy and mechanisms of action in the brain, genetic factors related to substance use and addiction, physiological effects of alcohol and drug misuse, and pharmacological interventions for recovery. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7150 Health Disparities and Substance Use Cr. 3

An introduction to health disparity frameworks and an overview of the unique problems and needs of diverse populations who misuse alcohol, tobacco and other drugs. Focuses on the application of culturally sensitive intervention and prevention strategies. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7560 Human Behavior in the Social Environment I: Micro Theory Cr. 3

Ecological systems perspective presented. Critical analysis of knowledge and theories of human development across the life span. Human behavior studied within the context of the social systems in which people live including families, peer groups, organizations and communities. Emphasis on how social systems promote and deter human development and the influence of diversity on human development. Focus on social work assessment. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7570 Women's Roles and Issues in Contemporary Contexts Cr. 3

Web course. Focus on women's issues from the perspective of human behavior theory, practice theory (as it relates to human behavior), and policy. The historical, political, and socioeconomic forces that maintain gender inequities in society and in the practice of social work. Implications of environmental influences examined in terms of social justice, social work values, knowledge and skills, as well as in terms of the structural and systematic arrangement and delivery of social welfare services at the micro, mezzo, and macro levels. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7620 Bridge: Social Welfare Policy, Research and Macro Practice Cr. 4

Integrative summer bridge course covers fundamental principles of social welfare policy, research and macro practice. Students develop a deeper understanding of how policy and research impacts social services, the community and vulnerable groups. Offered Spring/Summer.

Corequisite: SW 7070

Restriction(s): Enrollment is limited to Graduate level students.

SW 7660 Human Behavior in the Social Environment II: Diversity in a Multicultural Society Cr. 3

Emphasizes the interconnectedness of oppressions with a special focus on racism, sexism, heterosexism, ableism, and classism. Presents a conception of social justice and a framework for developing a social change orientation to combat discrimination, oppression, and economic deprivation and work toward social justice. Course uses the ecological systems perspective to understand human behavior within diverse families. Offered Winter.

Prerequisites: ([SW 7560 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 7700 Trauma-Informed Social Welfare Practice Cr. 3

Introduces students to the core concepts informing evidence-based assessment and intervention for traumatized children and adolescents who are in the child welfare system. Offered Winter.

Prerequisites: ([SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 7720 Introduction to Social Welfare Policy in the United States Cr. 3

Historical development of social welfare viewed dynamically as a function of social, economic, political and cultural transitions. Evolution of professional social work. Framework of analysis for social welfare policies, programs and agencies. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7770 Palliative Care and Elder Law Cr. 3

Overview of palliative and hospice care, fundamentals of advanced care planning, and local and national laws and policies that concern older adults and their families. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7820 Research Methods in Social Work I Cr. 3

First of two courses focused on basic concepts and methods of scientific inquiry as utilized in building knowledge for social work practice. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7830 Research Methods in Social Work II Cr. 3

Second of two courses focused on basic concepts and methods of scientific inquiry as utilized in evaluating service delivery and in enhancing the performance of social work practitioners. Offered Yearly.

Prerequisites: ([SW 7820 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 7990 Directed Study Cr. 1-4

Individual direction in reading and research on selected topics. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

SW 7995 Introduction to Gerontology Cr. 3

Required introductory course for Graduate Certificate in Gerontology.

Multidisciplinary conceptual framework for study of gerontology.

Students develop knowledge and skills needed to understand gerontological theory, research, and practice. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 7998 Concentration Field Work for Social Workers I Cr. 4-6

The ratio of clock hours to credits is 56.25 to 1. Practicum of M.S.W. program integrated with courses in social work method, human behavior and the social environment, social welfare organization and policy, and research. Field placements assigned by Coordinator of Field Education. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Social Work; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Social Work degree; enrollment limited to students in the School of Social Work.

Course Material Fees: \$35

Repeatable for 99 Credits

SW 7999 Master's Research Essay Direction Cr. 1-3

Two-semester course completed during the Advanced Year of the M.S.W. Program. Essay reflects an original synthesis of an already-published work, demonstrating a thorough understanding and mastery of a sub-area of social work, including the relevance of the problem and adequacy of intervention. Offered Fall, Winter.

Prerequisites: (May be taken concurrently; [SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Master of Social Work program; enrollment is limited to Graduate level students.

Repeatable for 3 Credits

SW 8015 Intervention/Program Planning Cr. 3

Strategies and approaches to comprehensive program development within the context of community and organizational practice. Offered Winter.

Prerequisites: ([SW 7065 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8025 Community Assessment and Evaluation Cr. 1

The focus of this course is to prepare social workers to assess communities, organizations, neighborhoods, and other social groups through the use of empirically substantiated social science techniques. Using social justice-oriented, community-driven, data analysis, students will be able to contribute to an assessment and/or evaluation of any given community. Offered Winter.

Prerequisites: ([SW 7065 with a minimum grade of C] OR [SW 7070 with a minimum grade of C]) AND ([SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8035 Techniques of Quantitative Data Analysis Cr. 1

Focus on advanced analytic techniques with quantitative data. Offered Winter.

Prerequisites: ([SW 7065 with a minimum grade of C] OR [SW 7070 with a minimum grade of C]) AND ([SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8045 Techniques of Data Interpretation and Presentation Cr. 1

Presenting case, issue, or problem in context of public policy with a graphical presentation of data to a range of different audiences within the framework of social work values and ethics. Offered Winter.

Prerequisites: ([SW 7065 with a minimum grade of C] OR [SW 7070 with a minimum grade of C]) AND ([SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8048 Social Action Research and Evaluation Cr. 3

Concepts, practices, and methodological approaches that are central to empowerment and action-oriented research and evaluation. Students are empowered to intervene into communities, institutions, neighborhoods, and other social groups through the use of empirically substantiated social science techniques. Offered Winter.

Prerequisites: ([SW 7810 with a minimum grade of C and SW 7065 with a minimum grade of C] OR [SW 7070 with a minimum grade of C]) AND ([SW 7820 with a minimum grade of C and SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C]) AND ([SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8055 Program Evaluation and Social Action Research Cr. 2

Concepts, practices, and methodological approaches central to empowerment and action-oriented research. Offered Winter.

Prerequisites: ([SW 7065 with a minimum grade of C] OR [SW 7070 with a minimum grade of C]) AND ([SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8065 Advanced Systems Theories and Practices Cr. 4

Applied systems approaches to achieve goals, explore planning, ensure fairness and social justice, and promote diversity. Offered Fall.

Prerequisites: ([SW 7065] OR [SW 7070]) AND (May be taken concurrently; [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8075 Theories and Practice of Community Building and Development Cr. 4

Best practice and theories on community development and engagement. Offered Fall.

Prerequisites: ([SW 7065] OR [SW 7070]) AND (May be taken concurrently: [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8085 Theories and Practice of Social Policy and Social Action Cr. 4

Theoretical frameworks and best practices to engage in social policy and social action. Offered Fall, Winter.

Prerequisites: (May be taken concurrently: [SW 8998]) AND ([SW 7065] OR [SW 7070])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8115 DSM in Clinical Social Work Practice Cr. 3

Reviews the classification, epidemiology, etiology and course of a range of mental and behavioral disorders across the life span. Emphasizes the critical analysis of existing and emerging theory and provides guidelines for the critical application and limitations of the DSM diagnostic assessment and classification system of mental and behavioral disorders in clinical social work practice. Offered Every Term.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8125 Therapeutic Storytelling with Children Cr. 1

Therapeutic storytelling as a means for expressing and resolving conflicts, disappointments, and anxieties in children. Strategies for assisting children in creating their own story-narratives, focusing on reciprocal, collaborative, and other forms of storytelling. Applications to a variety of childhood disorders and clinical situations. Offered Fall.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment limited to students in the Master of Social Work or PhD in Social Work programs; enrollment is limited to Graduate level students.

SW 8180 Social Services in the Schools Cr. 3

Structure and history of education in relation to social work; implications of current legislation; identification of educational disabilities; programs and services to remediate disabilities and assist students. Offered Yearly.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8330 Psychosocial Assessment of Children and Youth Cr. 3

Holistic approach to assessment of children and youth; focus on various aspects of assessment including interpretation of psychological test data; social work administration of behavioral scales; observation; interpretation of drawings; socialized assessment areas such as ADHD and autism. Offered Yearly.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8340 Application of Cognitive-Behavioral Theories to Interpersonal Practice I Cr. 4

Building on the generalist foundation, this course furnishes cognitive-behavioral theories as background for understanding developmental derailments from birth through adulthood, and for structuring beginning stages of social work treatment. Focus on work with vulnerable populations. Offered Fall.

Prerequisites: ([SW 7070] OR [SW 7055]) AND (May be taken concurrently: [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8350 Application of Cognitive Behavioral Theories to Interpersonal Practice II Cr. 4

Continuation of S W 8340; cognitive behavioral and behavioral treatment approaches to the middle and termination phases of social work treatment. Focus on work with vulnerable populations. Offered Winter.

Prerequisites: ([SW 8340]) AND (May be taken concurrently: [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8360 Application of Psychodynamic Theories to Interpersonal Practice I Cr. 4

Building on the generalist foundation, this course furnishes an integrative framework for: intensive examination of psychodynamic theories of development from birth through adulthood; descriptive, etiological, and dynamic diagnosis of psychopathology; application to beginning phases of clinical social work treatment. Focus on work with vulnerable populations. Offered Fall.

Prerequisites: ([SW 7070] OR [SW 7055]) AND (May be taken concurrently: [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8370 Application of Psychodynamic Theories to Interpersonal Practice II Cr. 4

Continuation of S W 8360. Course offers a psychodynamic integrative framework for evaluation of children, adolescents and adults; emphasis on the middle and termination phases of the clinical social work treatment process. Focus on work with vulnerable populations. Offered Winter.

Prerequisites: ([SW 8360 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8380 Application of Family Systems Theory to Interpersonal Practice I Cr. 4

Overview of family systems theories as a foundation for diagnosing family problems and initiating treatment. Application of interpersonal practice theories in working with families throughout life cycle of family, from formation to termination; transitional phases experienced by its members; obstacles to normal growth and development. Practices employed by social workers in family practice field, application of working paradigm for interpersonal practice in a variety of settings. Offered Fall.

Prerequisites: ([SW 7070 and SW 7055 with a minimum grade of C] OR [SW 7055 and SW 7070 with a minimum grade of C]) AND (May be taken concurrently: [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work.

SW 8390 Application of Family Systems Theory to Interpersonal Practice II Cr. 4

The major family therapy models and family theories in social work; incorporating an expanded view of recognizing biculturalism and a dual perspective of specific minorities (e.g., Arabs, Asians, Blacks, Hispanics, Native Americans and other subcultures). Advanced application of theories and conceptual frameworks for change to social work intervention with diverse family structures. Offered Winter.

Prerequisites: ([SW 8380]) AND (May be taken concurrently: [SW 8998])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work.

SW 8550 Social Functioning: Human Sexuality Cr. 2

Human sexuality as it affects individuals in their relationships to others in terms of development, orientation and dysfunction. Offered Every Term.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8570 Dynamics and Intervention in Family Violence Cr. 3

Examination of child abuse, partner violence, and elder abuse; theories of causality; dynamics and effects on social functioning. Social work practice methods in family violence. Offered Fall.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8580 Impact of Health and Disease on Social Functioning: Implications for Social Work Practice Cr. 3

Study of biological, psychological, social, and environmental factors which influence health; social work interventions for at-risk populations in health care. Offered Fall.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8610 Intp Prac-Family Cr. 2

Offered Yearly.

Prerequisite: (SW 7070 with a minimum grade of C or SW 7055 with a minimum grade of C) and SW 8540 (may be taken concurrently) with a minimum grade of C and SW 8998 (may be taken concurrently) with a minimum grade of M

Restriction(s): Enrollment is limited to Graduate level students.

SW 8620 Interpersonal Practice with Couples Cr. 2

Application of interpersonal practice theories in couples therapy utilizing behavioral and social science content in relation to marriage and committed relationships, to the functional and dysfunctional aspects of marital and couple relationships, and their effects on the couple and other affected family members. Offered Yearly.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8690 Interpersonal Practice in Substance Abuse Cr. 3

Application of interpersonal practice theories to social work interventions with substance abuse related problems; procedures and strategies for assessment and planning; methods of intervention with individuals, families, and groups; prevention and education. Offered Yearly.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8710 Ethical Issues in Interpersonal Practice Cr. 2

Graduate seminar on social work as a profession. Articulation of professional practice issues in such areas as: competencies, standards, professional organization, social sanction, ethics, autonomy, accountability, inter-professional practice, social action. Offered Winter, Spring/Summer.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8770 Advanced Policy Analysis Cr. 3

Opportunity to conduct a policy analysis in an area of interest; e.g., welfare reform, corrections, homelessness, health, domestic violence. Offered Every Term.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C]) AND ([SW 7720 with a minimum grade of C] OR [SW 7620 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8780 Adv Theory: Divrs Families Cr. 2

Offered Yearly.

Prerequisite: SW 8540 with a minimum grade of C and SW 8790 (may be taken concurrently) with a minimum grade of C and SW 8998 (may be taken concurrently) with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

SW 8860 Grief and Loss Issues in Social Work Practice Cr. 3

Knowledge and skills needed to provide social work services to individuals, groups and families coping with a range of loss experiences, including those around death, dying and bereavement. Offered Fall, Winter.

Prerequisites: ([SW 7055 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8883 Infant Mental Health Seminar I Cr. 1

Understanding and integration of knowledge and skills developed through courses and field placement experiences focused on infant mental health. Offered Fall.

Prerequisites: (May be taken concurrently; [SW 8998 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Social Work degrees; enrollment limited to students in the School of Social Work.

SW 8884 Infant Mental Health Seminar II Cr. 1

Supports Infant Mental Health Dual-Title students in the understanding and integration of knowledge and skills developed through courses and field placement experiences focused on infant mental health. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy or Master of Social Work degrees; enrollment limited to students in the School of Social Work.

SW 8991 Advanced Special Topics in Social Work Cr. 1-4

Topics of current interest for students in advanced year of M.S.W. program, Ph.D. program in social work or doctoral programs in related disciplines. Topics to be announced in Schedule of Classes. Offered Every Term.

Prerequisites: ([SW 7055 with a minimum grade of C and SW 7070 with a minimum grade of C] OR [SW 7070 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8996 Group Project Research and Direction Cr. 1-4

Offered Every Term.

Prerequisites: (May be taken concurrently; [SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment is limited to Graduate level students.

SW 8998 Concentration Field Work for Social Workers II Cr. 4-6

The ratio of clock hours to credits is 56.25 to 1. Practicum of M.S.W. program integrated with courses in social work method, human behavior and the social environment, social welfare organization and policy, and research. Field placements assigned by Coordinator of Field Education. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Social Work; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Social Work degree.

Course Material Fees: \$35

Repeatable for 12 Credits

SW 8999 Master's Thesis Research and Direction Cr. 1-6

Offered Every Term.

Prerequisites: (May be taken concurrently; [SW 7810 with a minimum grade of C] OR [SW 7830 with a minimum grade of C])

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 6 Credits

SW 9000 Directed Study: Doctoral Cr. 1-6

Independent study under guidance of a faculty member. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

Repeatable for 6 Credits

SW 9100 Social Statistics and Data Analysis Cr. 3

Application of univariate and bivariate statistics and analysis of variance to analyze data obtained from social work practice settings. Students learn to formulate appropriate research questions and hypotheses before data collection, to use SPSS to conduct analysis, and to interpret analyses and communicate findings to academics and practitioners. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9210 Theories for Practice and Research with Individuals Cr. 3

Major theoretical systems currently used in clinical social work practices presently used with individuals, examined from six vantage points: model origin; conceptual framework; view of person-in-environment; philosophy of treatment; model effectiveness; practice controversies. Offered Yearly.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9220 Theories for Practice and Research with Groups and Families Cr. 3

Theories, models and perspectives guiding social work practice with families. Offered Yearly.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9230 Theories for Practice and Research with Communities and Organizations Cr. 3

Practice theory at the macro level. Two perspectives: how macro serves as a context of social work practice at levels of policy, community, organization; and theories of practice with macro systems. How a scholar imparts content and undertakes research at these levels. Offered Yearly.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9240 Social Work Education Cr. 3

Standards, trends and issues of contemporary and future social work education. Critical analysis of articulation among bachelor's, master's, doctoral education. Emphasis on course development, designing effective learning experiences. Offered Biannually.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9260 Current and Historical Trends in US Social Welfare Policy Cr. 3

Critical analysis in order to understand policy contexts that frame contemporary social work problems and practice. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9300 Applied Regression Analysis and Generalized Linear Models Cr. 3

Classic regression models, generalized linear models, including weighted least-squares, hierarchical linear models, logistic regression. Using SPSS to analyze social work practice data; interpretation of findings; communication of findings to scholars and practitioners. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9400 Qualitative Research Methods in Social Work Cr. 3

Examination of social work practice through case study, action research, and qualitative approaches to knowledge building. Offered Yearly.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9410 Quantitative Research Methods in Social Work Cr. 3

Understanding and application of knowledge and skills in quantitative research methods aimed at increasing knowledge for social work practice and social welfare policy; clear, researchable questions; use of appropriate theory; selection of design; drawing of sample; and development of appropriate measures and operations within person-in-environment framework. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9420 Research Practicum Cr. 3

Supervised hands-on research experience with a faculty member. Problem formulation, literature review, sample selection, sampling technique, formulation of design, development of instruments, data analysis, interpretation of results, writing a research report within the person-in-environment framework. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9430 Dissertation Seminar Cr. 1

Development, presentation and critique of dissertation research questions, in context of social work practice or social welfare policy. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9500 Advanced Clinical Social Work Theory Cr. 3

Broader and deeper mastery of several theories of development, personality, behavior, and psychopathology that have contributed to the knowledge base of social work. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9510 Applied Clinical Social Work Practice I Cr. 3

Structured in part as a didactic seminar and in part as a continuous case conference, this year-long course offers a balanced emphasis on the rational, technical, and ethical aspects of social work treatment and clinical supervision. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9520 Applied Clinical Social Work Practice II Cr. 3

Structured in part as a didactic seminar and in part as a continuous case conference, this year-long course offers a balanced emphasis on the rational, technical, and ethical aspects of social work treatment and clinical supervision. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9550 Advanced Clinical Practicum I Cr. 2

Practicum provides students with an intensive clinical placement experience in which they can further refine their clinical skills. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9560 Advanced Clinical Practicum II Cr. 2

Practicum provides students with an intensive clinical placement experience in which they can further refine their clinical skills. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

SW 9697 Integrative Seminar in Social Work and Anthropology Cr. 3

Graduate-level integrative seminar that explores the intersection between social work and anthropology by critically analyzing relevant ethnographic scholarship. Offered Biannually.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

SW 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Preliminary research relevant to proposed area of dissertation research. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

Repeatable for 12 Credits

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

Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

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

Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.

Prerequisite: SW 9991 with a minimum grade of S

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

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

Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.

Prerequisite: SW 9992 with a minimum grade of S

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

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

Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.

Prerequisite: SW 9993 with a minimum grade of S

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

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

Continuation of dissertation research. Offered Every Term.

Restriction(s): Enrollment limited to students in the PhD in Social Work program; enrollment is limited to Graduate level students.

Course Material Fees: \$348.67

SWA - SWAHILI

SWA 1010 Elementary Swahili I Cr. 4

Training in pronunciation, aural comprehension, oral and written expression. Supervised laboratory period for part of class preparation. Offered Fall.

Course Material Fees: \$5

SWA 1020 Elementary Swahili II Cr. 4

Continuation of SWA 1010. Offered Winter.

Prerequisites: ([SWA 1010 with a minimum grade of D-])

Course Material Fees: \$5

SWA 2010 Intermediate Swahili Cr. 4

Conversational Swahili and grammar review; reading of Swahili literature. Continuation of SWA 1020. Offered Spring/Summer.

Prerequisites: ([SWA 1020 with a minimum grade of D-])

Course Material Fees: \$5

SYE - SYSTEMS ENGINEERING

SYE 5470 Creative Problem Solving in Design and Manufacturing Cr. 4

Concepts of laws of natural development of engineering systems. Algorithm for inventive (creative) problem-solving (AIPS-85). Creative use of physical and geometrical effects in design of mechanical and manufacturing systems. Concepts of strength, stiffness, vibratory effects, reliability in mechanical design. Offered Yearly.

TED - TEACHER EDUCATION

TED 2250 Becoming an Urban Educator Cr. 3

Examination of issues surrounding social justice in urban schools and society through the exploration of the historical, political, and social trends that influence education. Course includes a 40-hour service learning field experience. Offered Every Term.

Restriction(s): Enrollment limited to students in the College of Education.

TED 5150 Analysis of Elementary Teaching Cr. 3,5

Organization and management of classrooms. Lesson planning, teaching strategies and testing procedures. Work in classroom assigned by both an experienced public school teacher and a University faculty member. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

Course Material Fees: \$29

TED 5650 Pre-Student Teaching Field Experience for Secondary Majors Cr. 5

Field experience in secondary school settings prior to full-time student teaching. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

TED 5780 Directed Teaching and Conference Cr. 1-12

Directed teaching in schools at level for which students are preparing for certification. Includes regular conference in which teaching methods in various fields are explored. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

TED 5790 Directed Teaching and Conference for Special Groups Cr. 1-15

Directed teaching in schools at level for which advanced students are preparing for certification; discussion of educational issues. For students seeking endorsements in special areas; for example: special education, early childhood, art. Students interested in completing general elementary and special education field experiences in the same semester should see advisor for eligibility requirements. Offered Fall, Winter.

Restriction(s): Enrollment limited to students in the College of Education.

Repeatable for 15 Credits

TED 6020 Computer Applications in Teaching I Cr. 3

Variety of hands-on experiences where technology is used as a tool to support instruction and assessment purposes in K-12 classrooms. Course activities introduce students to educational technology standards. Offered Every Term.

TED 6030 Computer Applications in Teaching II Cr. 3

Use of computing resources to develop problem-solving strategies and multimedia applications for students in specific K-12 curriculum areas. Offered Fall, Winter.

Prerequisite: TED 6020

TED 6140 Local School Curriculum Planning Cr. 1-6

For classroom teachers and teacher educators. Consideration of local problems in elementary and secondary school programs. Planning for better teaching and learning. Offered Irregularly.

Repeatable for 12 Credits

TED 6350 Analysis of Teaching in Urban Schools Cr. 3

Inquiry-based clinical course designed to provide the fundamental elements necessary for teacher candidates to work in high priority urban schools. Offered Spring/Summer.

TED 6370 Equity and Inclusion in Diverse Urban Education Settings Cr. 4

Clinical based course, using inclusive instructional practices for all students including, but not limited to, students with disabilities, English Language Learners, and special populations such as: at-risk, and gifted and talented in inclusive urban settings. Offered Fall.

TED 6380 Integrating Content Cr. 1-12

Current issues and trends related to integrating content areas; theory, methods, materials and strategies. Content areas announced in Schedule of Classes. Offered Yearly.

Repeatable for 12 Credits

TED 7000 Introductory Master's Seminar Cr. 2-3

Skill development in the three primary areas: information access through the variety of resources available in a university library; comprehension and evaluation of technical literature; employment of APA style in technical writing. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Graduate level students.

TED 7030 Foundations of Teaching and Learning Cr. 3

Theoretical foundations guiding classroom teaching and learning with applications to curricular and instructional practices and their implications for the experiences of children of cultural heritages. Offered Every Term.

Restriction(s): Enrollment limited to students in a Doctor of Education, Doctor of Philosophy, Education Specialist Cert or Master of Education degrees.

TED 7060 Inclusive Education, Curriculum and Pedagogy Cr. 3

This course has two emphases. First, it provides graduate students with foundational knowledge about the philosophy and sociology of inclusive education as it relates to students who are members of marginalized groups. Second, it provides students with opportunities to learn a basic framework for inclusive education, curriculum, and pedagogy. Offered Every Term.

Restriction(s): Enrollment limited to students in a Doctor of Education, Doctor of Philosophy, Education Specialist Cert or Master of Education degrees.

TED 7800 Practicum in Curriculum Theory, Development, and Evaluation Cr. 1-5

Specific curriculum issues; linking theory and practice in educational settings. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 5 Credits

TED 7860 Social, Emotional and Aesthetic Perspectives on Curriculum and Instruction Cr. 3

Social, emotional and aesthetic perspectives on curriculum and instruction their significance for educational practice and student development. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

TED 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. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

TED 8270 Seminar: Issues in Curriculum and Instruction Cr. 2-6

For specialist and doctoral students. Analysis of basic issues in curriculum and instruction and their implications for program: early childhood, K-12, adult curricula. Critique of recent research and development efforts. Application to problems of leadership in school-wide curricular improvements. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

TED 8280 Research Seminar: Curriculum and Instruction I Cr. 3

Methods of research in curriculum and instruction. Critical review of types of research in curriculum and instruction. Research design. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

TED 9130 Doctoral Seminar in Curriculum and Instruction Cr. 3

An examination of curriculum theory and concepts that apply to the development of content and instructional strategies relevant to contemporary education. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

TED 9620 Doctoral Internship in Curriculum and Instruction Cr. 3-6

Planned and supervised professional field-based experience relevant to doctoral program and projected profession. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

THR - THEATRE

THR 1010 Introduction to the Theatre Cr. 3

Historical, critical and cultural aspects of theatre and drama discussed relative to play attendance. No credit after THR 1111. Offered Every Term.

THR 1030 Introduction to Black Theatre and Performance Cr. 3

Origins, development, and current trends with production techniques and problems related to the special area of the drama. Offered Every Term.

Course Material Fees: \$10

THR 1041 Musical Theatre Appreciation Cr. 3

Survey of American musical theatre from its multiple historical origins to the present. Development of musical theatre understanding and critical observational skills through focus on the ways in which the genre has emerged through interactions between musical theatre artists and their audiences. Offered Fall, Winter.

Course Material Fees: \$10

THR 1111 Fundamentals of Theatre Cr. 3

Introduction to the aesthetic principles of theatre as an art form: with special focus on the design principles and theatre spaces. Required for theatre majors. No credit after THR 1010. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

THR 1121 Play Analysis Cr. 3

Reading and structural analysis of plays. Selected nineteenth and twentieth century plays. Offered Winter.

Course Material Fees: \$10

THR 1141 State of the Arts: Contemporary Creative Practices Cr. 3

Classroom and web-based survey of creative processes and practices in theatre, dance, visual arts, music and film, through readings from practitioners, interviews with visual and performing artists, and attending performances and exhibitions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$15

THR 1211 Acting I Cr. 3

An introduction to the vocabulary of the stage, the process of acting, improvisation, and ensemble work. Offered Yearly.

Course Material Fees: \$15

THR 1215 Acting II Cr. 3

Continuation of THR 1040 or THR 1211; scene study, improvisation in development of actor's craft. Offered Yearly.

Prerequisites: ([THR 1040 with a minimum grade of C] OR [THR 1211 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 1411 Fundamentals of Crafts: Scenery and Costumes Cr. 3

An introduction to stagecraft techniques and practices used in the creation of scenery and costumes for the performing arts. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$35

THR 1451 Principles of Makeup Cr. 1

Fundamentals of theatre makeup. Laboratory projects coordinated with University Theatre productions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$30

THR 1461 Fundamentals of Crafts: Lighting and Stage Management Cr. 3

An introduction to stagecraft techniques and practices used in the performing arts for lighting, sound, and stage management. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$35

THR 2130 Stagecraft Cr. 3

Principles of scenic construction and painting. Types and utilization of stage scenery. Laboratory projects coordinated with University Theatre productions. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Theatre or Theatre Honors; enrollment limited to students in the BA in Fine Arts or Bachelor of Fine Arts programs; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

Course Material Fees: \$30

THR 2211 Acting: Scene Study Cr. 3

Continuation of THR 1211 with concentration on working on a role; breakdown of text into actions, objectives, beats; sensory work through scene work. Offered Every Term.

Prerequisites: ([THR 1211 with a minimum grade of C] OR [THR 1040 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$15

THR 2220 Fundamentals of Voice and Movement Cr. 3

Basic explorations of movement and voice focusing on the experiential study of a variety of movement and vocal techniques in order to expose the student to differing approaches and styles of voice and movement work that are commonly practiced in contemporary theatre. Offered Every Term.

Prerequisites: ([THR 1211 with a minimum grade of C] OR [THR 1040 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$15

THR 2221 Stage Movement I Cr. 2

Introduction to the principles, practices, and exercises in body technique and stage movement. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 2231 Voice Lab I Cr. 2

Introduction to vocal production. Emphasis on relaxation, breathing techniques, and the production of vocal sounds. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 2251 Musical Theatre Performance I Cr. 3

Studio course; examining styles of musical theatre performance; applying acting techniques to interpret styles throughout the era of musical theatre. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$50

THR 2255 Musical Theatre Performance II Cr. 3

Studio course; continuation of THR 2251 or THR 2320. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$50

THR 2261 Opera Workshop Cr. 1

Offered Irregularly.

Course Material Fees: \$20

Equivalent: MUA 2860

Repeatable for 8 Credits

THR 2301 Introduction to Design for the Theatre Cr. 3

Methods and materials laboratory course. Practical exercises.

Prerequisite to stage, costume or lighting design; techniques of costume, lighting design; rendering, drafting, perspective, color, and design. Offered Fall.

Prerequisites: ([THR 1010 with a minimum grade of C] OR [THR 1111 with a minimum grade of C])

Course Material Fees: \$30

THR 2580 Theatre Laboratory Cr. 1

Supervised laboratory in technical and managerial facets of theatre in production. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2581 Theatre Studio - Performance Cr. 1

Supervised studio in theatre performance requiring participation in department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2582 Theatre Studio - Scenery/Lighting Cr. 1

Supervised studio in scenery and lighting techniques applied to department productions. Offered Fall, Winter.

Prerequisites: ([THR 1411 with a minimum grade of D-]) AND ([THR 1461 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2583 Theatre Studio - Costumes Cr. 1

Supervised studio in theatrical costuming applied to department productions. Offered Fall, Winter.

Prerequisites: ([THR 1411 with a minimum grade of C])

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2584 Theatre Studio - Stage Management Cr. 1

Supervised studio in stage management applied to department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2585 Theatre Studio - Theatre Management Cr. 1

Supervised studio in theatre management as applied to department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2586 Theatre Studio - Running Crew Cr. 1

Supervised studio in theatre production for back stage crew and/or wardrobe crew applied to department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2587 Theatre Studio - Production Cr. 1

Supervised studio as a unique production crew or technical assignments (projection designer, puppeteer, automation specialist, etc.) required in a department production. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 2611 Stage Management Cr. 3

Study of activities except acting that take place on stage or backstage during a technical performance and during rehearsal period. Offered Every Term.

Prerequisites: ([THR 1111 with a minimum grade of C] OR [THR 1010 with a minimum grade of C])

Course Material Fees: \$10

THR 3211 Acting III Cr. 3

Study and exercise in the fundamentals of the actor's craft. Emphasis on the development of the actor's inner resources as applied to dramatic action, and consideration of basic stage techniques. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 3215 Acting IV Cr. 3

Development of the techniques and basic principles of character building. Emphasis on the development of a role through script, exercises and scene work. Offered Winter.

Prerequisites: ([THR 2030 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 3221 Stage Movement II Cr. 2

Continuation of THR 2010 or THR 2221. Emphasis on character movement. Offered Winter.

Prerequisites: ([THR 2010 with a minimum grade of D-] OR [THR 2221 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 3225 Stage Movement III Cr. 2

Styles of stage movement: Commedia, Moliere, Restoration. Emphasis on period department, manners, and dance forms. Offered Fall.

Prerequisites: ([THR 2020 with a minimum grade of C] OR [THR 3221 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 3231 Voice Lab II Cr. 2

Continuation of vocal production work and an introduction to consonant sounds. Offered Yearly.

Prerequisites: ([THR 2110 with a minimum grade of D-] OR [THR 2231 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 3235 Voice Lab III Cr. 2

Continuation of vocal and articulation work and an introduction to rhythm and tempo in the speaking voice. Offered Winter.

Prerequisites: ([THR 2170 with a minimum grade of C] OR [THR 3231 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 3241 Dance Styles of Musical Theatre Cr. 3

Tap, jazz and dance of the American musical theatre tradition. Emphasis on skills for performing and auditioning for Broadway and movie musicals. Offered Yearly.

Course Material Fees: \$15

Repeatable for 6 Credits

THR 3411 Technical Production Cr. 3

Approach to technical design challenges in scenery, costuming, lighting, digital media, and sound. Offered Fall.

Prerequisite: THR 1411 with a minimum grade of C

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$35

THR 3561 WSU Touring Theatre Cr. 1

Offered Every Term.

Repeatable for 6 Credits

THR 3570 Technical Theatre Problems Cr. 2

Participation in theatre productions as stage manager or assistant stage manager. Offered Every Term.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$30

Repeatable for 8 Credits

THR 3581 Advanced Theatre Studio - Performance Cr. 1

Supervised studio in theatre performance requiring participation in department productions. Written permission of Instructor or academic advisor required. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3582 Advanced Theatre Studio - Scenery/Lighting Cr. 1

Supervised studio in theatrical scenery and lighting techniques applied to department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3583 Advanced Theatre Studio - Costumes Cr. 1

Supervised laboratory in theatrical costuming applied to department productions. Written permission of Instructor or academic advisor required. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3584 Advanced Theatre Studio - Stage Management Cr. 1

Supervised studio in stage management applied to department productions. Written permission of Instructor or academic advisor required. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3585 Advanced Theatre Studio - Theatre Management Cr. 1

Supervised studio in theatre management applied to department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3586 Advanced Theatre Studio - Running Crew Cr. 1

Supervised laboratory as back stage crew and/or wardrobe crew for department productions. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3587 Advanced Theatre Studio - Production Cr. 1

Supervised studio as unique production crew or technical assignment (projection designer, puppeteer, automation engineer, etc.) in a department production. Offered Fall, Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$60

Repeatable for 3 Credits

THR 3651 Principles of Theatre Management Cr. 3

Introduction to the principles and practices of theatre management. Season selection, advertising, budgeting, marketing and fundraising are among the areas to be covered. Offered Yearly.

Course Material Fees: \$10

THR 3671 Theatre Management: Marketing and Public Relations Cr. 3

Methods and approaches used by Theatre Management professionals to communicate their mission, events, and productions. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

THR 3675 Theatre Management: Marketing Design and Layout Cr. 3

Techniques and practices for design and layout specifically addressing the needs in Theatre and Arts Marketing; programs, posters, billboards, brochures, and web pages Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

THR 3681 Theatre Management: Patron Services and Development Cr. 3

Methods and approaches used by Theatre Management professionals to create and maintain meaningful relationships with patrons and audience. This class will emphasize oral communication skills supported by simple use of practices found in the theatre industry Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

THR 3711 World Performance Studies I Cr. 3

Research/studio course examining styles of the late twentieth century to the present; includes spoken word, dance, and multi-media performance art. Introduction to directors and performers such as: Robert Wilson, Spalding Gray, Sekou Sundiata, Robert LePage, Peter Brook. Emphasis on creating ensemble performance work. Offered Fall.

THR 3715 World Performance Studies II Cr. 3

Advanced research/studio. Emphasis on solo works and their makers; may include Anna Devereaux Smith, Eric Bogosian, Laurie Anderson. Creation of solo performances. Offered Winter.

THR 3731 Applied Theatre Studies: Community Possibilities Cr. 3

Fundamental theory and practical technique of applied theatre work, especially process drama and playbuilding. Focus on community situations including intergenerational dynamics, community health and social work effectiveness, and areas of outreach involvement. Offered Yearly.

Course Material Fees: \$10

THR 3735 Applied Theatre Studies: Theatre in Education Cr. 3

Fundamentals of applied theatre work, especially story drama, process drama, and theatre-in-education (TIE). Focus on the artist as teacher; the visiting artist in the classroom, after-school drama programming, performing as a member of a TIE team. Offered Yearly.

THR 3738 Applied Theatre Practicum Cr. 1-4

Supervised students work in schools, with youth programs, and in community service settings, implementing applied theatre projects. Offered Yearly.

Repeatable for 8 Credits

THR 3811 Africana Theatre and Dance: Concepts and Practices Cr. 3

Exploration of the interdisciplinary and global reach of black performance in theatre and dance; examination of key concepts through the analysis of performance and popular culture with scholarly and creative texts by scholars, activists, and artists from the Black Diaspora. Offered Winter.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$10

THR 3990 Directed Study Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Theatre or Theatre Honors.

Repeatable for 9 Credits

THR 4211 Acting V Cr. 3

Theories and methods of acting verse drama. Offered Fall.

Prerequisites: ([THR 2040 with a minimum grade of D-])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

Repeatable for 6 Credits

THR 4221 Stage Movement IV Cr. 2

Styles of stage movement: Shakespeare. Emphasis on Renaissance deportment, manners, and dance forms. Offered Winter.

Prerequisites: ([THR 3020 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 4231 Voice Lab IV Cr. 2

Continuation of vocal articulation and vocal music techniques; harmonizing them in performance. Offered Yearly.

Prerequisites: ([THR 3080 with a minimum grade of C] OR [THR 3235 with a minimum grade of C])

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

Course Material Fees: \$15

THR 4271 Acting for the Camera Cr. 3

Acting technique and practice with an emphasis on developing the technical and emotional adjustments required for success in Film, TV and industry acting. Units include adjusting theatre acting technique for Film and TV; learning to ""hit marks"" and to understand frame sizes; and developing video auditions. Offered Fall.

Restriction(s): Enrollment is limited to Undergraduate level students.

Course Material Fees: \$15

THR 4995 Theatre Capstone: Performance Cr. 3

Capstone experience for B.F.A. acting students. The course focuses on transitioning into the profession, including: auditioning approaches and techniques; showcase preparation and presentation; and developing a personal professional resume and electronic portfolios. Offered Winter.

Prerequisite: THR 4211 with a minimum grade of C

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre.

THR 4996 Theatre Capstone: Design and Technology Cr. 3

Capstone experience for B.F.A. design tech students. The course focuses on transitioning into the profession, including: auditioning approaches and techniques; showcase preparation and presentation; and developing a personal professional resume and electronic portfolios. Offered Winter.

Prerequisite: THR 4211 with a minimum grade of C

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre.

THR 4997 Theatre Capstone Experience Cr. 3

Development of a personal electronic portfolio demonstrating computer proficiency. Offered Winter.

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre or Theatre Honors; enrollment limited to students in the BA in Fine Arts program; enrollment limited to students in a Bachelor of Arts degree.

THR 4998 Capstone Honors Thesis Cr. 3

Culminating project for theatre honors students: research for scholarly/creative activity. Offered Spring/Summer.

Prerequisite: (THR 3410 (may be taken concurrently) with a minimum grade of C or THR 3460 (may be taken concurrently) with a minimum grade of C or THR 3030 (may be taken concurrently) with a minimum grade of C or THR 3731 (may be taken concurrently) with a minimum grade of C or THR 3735 (may be taken concurrently) with a minimum grade of C)

Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre Honors; enrollment limited to students in the BA in Fine Arts or Bachelor of Fine Arts programs; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

THR 5121 Active Analysis for Actors, Directors, and Designers Cr. 3

Instruction in the Method of Active Analysis, which comprised the final work of Konstantin Stanislavsky on rehearsal, performance, and production. The course is intended for actors and designers as well as directors. Lectures, readings, discussions, and practical work leading toward staging of scenes. Offered Yearly.

THR 5311 Stage Design Cr. 3

The scenic designer's multiple analysis of a play. Practice in evolving a technique of scenic design by study of selected plays with execution of sketches and working drawings. Offered Irregularly.

Prerequisite: THR 1411 with a minimum grade of C

Course Material Fees: \$30

Repeatable for 6 Credits

THR 5315 Advanced Stage Design Cr. 3

Studio theory course in stylistic characteristics of modern stage designs. Advanced problems in scenic design. Offered Irregularly.

Prerequisites: ([THR 5080 with a minimum grade of C] OR [THR 5311 with a minimum grade of C])

Course Material Fees: \$30

Repeatable for 6 Credits

THR 5321 Theatre Costuming I Cr. 3

Studio projects coordinated with University Theatre productions. Offered Fall.

Prerequisite: THR 1411 with a minimum grade of C

Course Material Fees: \$30

THR 5325 Theatre Costuming II Cr. 3

Advanced costume design projects concentrating on the expression of character through design principles. Further development of drawing and rendering skills. Offered Winter.

Prerequisite: THR 5010 with a minimum grade of C or THR 5321 with a minimum grade of C

Course Material Fees: \$30

THR 5331 Stage Lighting Cr. 3

Theory and practice in stage lighting. Examination of lighting in composition and the aesthetics of light through projects in the stage lighting laboratory. Discussion of applications of lighting instrumentation and control equipment to theatrical production. Participation in lighting University Theatre productions is required. Offered Fall.

Prerequisite: THR 1461 with a minimum grade of C

Course Material Fees: \$45

THR 5335 Advanced Stage Lighting Design Cr. 3

Examination of situations and responsibilities encountered in professional lighting design. Project work based on large-scale, complex requirements. Offered Irregularly.

Prerequisites: ([THR 5070 with a minimum grade of C] OR [THR 5331 with a minimum grade of C])

Course Material Fees: \$45

THR 5422 Introduction to Scene Painting Cr. 3

Studio and demonstration course as an introduction to painting for the stage, with an emphasis on the materials, texturing techniques, three-dimensional effects and the beginning work from painter's elevations. Offered Irregularly.

Course Material Fees: \$70

THR 5426 Advanced Scene Painting Cr. 3

Studio and demonstration course for the design or technical theatre student. Materials, techniques, styles of scene painting. Offered Irregularly.

Prerequisite: THR 5422 with a minimum grade of C or THR 5140 with a minimum grade of C

Course Material Fees: \$70

THR 5451 Advanced Stage and Film Makeup Cr. 2

Continuation of basic principles applied in THR 3050 or THR 1451; emphasis on new makeup materials; experimentation with prosthesis and design for problem makeup. Offered Irregularly.

Prerequisite: THR 3050 with a minimum grade of C or THR 1451 with a minimum grade of C

Course Material Fees: \$15

THR 5640 Introduction to Accounting for Nonprofit Organizations Cr. 2

Introduction to accounting for nonprofit organizations. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

THR 5651 Case Writing of Creative Ventures Cr. 3

Team activity of researching and writing a business case study for an organization in the Detroit region that is engaged in a service learning activity with community and/or University partners. Offered Fall, Winter.

THR 5700 Performance Studies Cr. 3

The study of performance studies' interdisciplinary genealogy, which draws from anthropology, theatre, dance, and visual, rhetorical, gender, and cultural studies. Application of how performance theory/praxis operates as both object of study and critical lens. Offered Fall.

Prerequisite: ENG 3010 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Course Material Fees: \$40

Equivalent: DNC 5700

THR 5711 Play Direction Cr. 3

Principles and theories of stage movement, blocking, casting, rehearsing. Students required to direct scenes and one-act plays for class presentation. Offered Fall.

Course Material Fees: \$15

THR 5721 Playwriting Cr. 3

Introduction to the craft of writing for the stage. Students required to write a full-length dramatic script. Offered Biannually.

Course Material Fees: \$10

THR 5725 Writing for Theatre Cr. 3

Advanced study, in a workshop setting, of dramatic structure and writing for the theatre, terminating in the writing of an original stage play. Offered Irregularly.

Prerequisite: ENG 3830 with a minimum grade of C

Equivalent: ENG 5890

Repeatable for 6 Credits

THR 5731 Applied Theatre Studies: Community Possibilities Cr. 3

Fundamental theory and practical technique of applied theatre work, especially process drama and play-building. Focus on community situations including intergenerational dynamics, community health and social work effectiveness, and areas of outreach involvement. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

THR 5735 Applied Theatre Studies: Theatre in Education Cr. 3

Fundamentals of applied theatre work, especially story drama, process drama, and theatre-in-education (TIE). Focus on the artist as teacher; the visiting artist in the classroom, after-school drama programming, performing as a member of a TIE team. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

THR 5738 Applied Theatre Practicum Cr. 1-4

Supervised students work in schools, with youth programs, and in community service settings, implementing applied theatre projects. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

THR 5751 Study Abroad: Moscow Art Theatre School Cr. 3

Intensive training in acting or another branch of theatre. Study is conducted on-site at the Moscow Art Theatre School, Moscow, Russia. Offered Spring/Summer.

THR 5755 Study Abroad: Directed Study in Russian Theatre Cr. 1-3

Focused studies on Russian theatre, performance, design and production; directed studies in contemporary Russian. Offered Spring/Summer.

Prerequisite: THR 5600 (may be taken concurrently) with a minimum grade of C or THR 5751 (may be taken concurrently) with a minimum grade of C

THR 5811 Development of the Drama I: Greek to Eighteenth Century Cr. 3

Plays from the Greek through the eighteenth century, including Shakespeare; relation of drama to an era and its theatre. Offered Fall.

Course Material Fees: \$10

THR 5812 Development of the Drama II: Nineteenth Century to Modern Cr. 3

Plays and theories of the theatre from the nineteenth century to modern times; relation of drama to an era and its theatre. Offered Winter.

Course Material Fees: \$10

THR 5821 Black Dramatic Literature and Performance Cr. 3

Critical study of significant black dramatists of the American stage: Willis Richardson, Marita Bonner, Randolph Edmonds, Langston Hughes, Alice Childress, Lorraine Hansberry, Ed Bullins, Amiri Baraka, Ntozake Shange, and August Wilson. Offered Yearly.

Course Material Fees: \$10

Equivalent: AFS 5220

THR 5831 Pioneers of the Modern Theatre Cr. 3

Stanislavski, Meyerholdt, Artaud, Gordon Craig, Brecht; lectures and creative projects. Offered Biannually.

Course Material Fees: \$10

THR 5841 Theatre History I Cr. 3

The development of the physical theatre and the evolution of production methods in Greek, Medieval, Renaissance, and English Restoration theatres with the correlation of the cultural environment of each period. Offered Fall.

Course Material Fees: \$10

THR 5842 Theatre History II Cr. 3

Continuation of THR 5100 or THR 5841. Theatre from English and continental eighteenth century to contemporary European and American theatres. Offered Winter.

Prerequisites: ([THR 5100 with a minimum grade of C] OR [THR 5841 with a minimum grade of C])

Course Material Fees: \$10

THR 5993 Writing Intensive Course in Theatre Cr. 0

Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.

Prerequisites: (May be taken concurrently: [THR 5811] OR [THR 5812] OR [(AA) Exempt from Gen Ed MACRAO with a test score minimum of 100] OR [(BA) Competencies Waiver with a test score minimum of 100])

Restriction(s): Enrollment is limited to students with a major in Theatre or Theatre Honors; enrollment is limited to Undergraduate level students; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

THR 5995 Special Topics in Theatre Cr. 1-3

Specialized studies in theatre performance, history, criticism, management, design, and technology. Topics to be announced in Schedule of Classes. Offered Every Term.

Repeatable for 6 Credits

THR 6211 Acting Studio I: Fundamentals of the Stanislavski System Cr. 2

Open only to Hilberry Company members in the M.F.A. Acting Program. Offered for graduate credit only. A study of the Method of Active Analysis through Physical Action, a post-1991 understanding and practice of the teachings of Konstantin Stanislavski. Subject matter to be chosen from modern texts - Anton Chekhov through Eugene O'Neill. Offered Fall.

Restriction(s): Enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 6215 Acting Studio II: Introduction to the Michael Chekhov Cr. 2

Understanding and application of the principles and tools of the Technique: Psycho-physical approach; Imagination and Incorporation of Images; Improvisation and Ensemble work; Atmosphere; and Psychological Gesture. Subject matter to be chosen from the plays of William Shakespeare. Clues from First Folio renditions of the plays will be identified on all analysis assignments. Offered Winter.

Prerequisite: THR 6211 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 6221 Theatrical Movement I - Introduction to Physical Awareness Cr. 1

Pilates Method of body conditioning; learning and perfecting movements of the body at beginning and intermediate levels. Offered Fall.

Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 6225 Theatrical Movement II - Introduction to Movement Analysis Cr. 1

Yoga; Laban Movement Analysis for analyzing and further strengthening the body. Offered Winter.

Prerequisite: THR 6070 with a minimum grade of C or THR 6221 with a minimum grade of C

Restriction(s): Enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 6231 Voice and Speech I - Foundations of Voice for the Actor Cr. 1

Studies in vocal physiology and production using Fitzmaurice, Linklater, and Lessac techniques. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 6235 Voice and Speech II: Speech Foundations Cr. 1

Studies in speech and phonetics through physiology, articulatory improvement, and phonetics with application to text. Offered for graduate credit only. Offered Winter.

Prerequisite: THR 6050 with a minimum grade of C or THR 6231 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 6301 Foundations of Graduate Design Cr. 2

Introduction to the design process and expectations for graduate-level study in theatrical design. Review of responsibilities of each portion of design team, examination of traditional and electronic methods of research. Offered Fall.

Restriction(s): Enrollment limited to students in a Master of Fine Arts degree.

THR 6311 Professional Scenic Design I Cr. 3

Development of rendering techniques and personal aesthetics of scene design. Use of tools, materials, methods and applications for professional presentation of renderings. Studio projects. Offered for graduate credit only. Offered Biannually (Winter).

Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C

Restriction(s): Enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$30

THR 6315 Professional Scenic Design II Cr. 3

Continuation of THR 6290 or THR 6311. Advanced study for opera, ballet, children's theatre and divergent genres and styles. Offered Biannually (Fall).

Prerequisite: THR 6290 with a minimum grade of C or THR 6311 with a minimum grade of C

Course Material Fees: \$30

THR 6321 Professional Costume Design I Cr. 3

Advanced exploration of the principles of costume design as it relates to Western theatrical literature. Offered for graduate credit only. Offered Irregularly.

Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$30

THR 6325 Professional Costume Design II Cr. 3

Advanced exploration of elements, genres, and styles of costume design as it relates to Western theatrical literature and conventions. Significant project work and research. Offered Biannually (Fall).

Prerequisite: THR 6060 with a minimum grade of C or THR 6321 with a minimum grade of C

Restriction(s): Enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$30

THR 6331 Professional Lighting Design I Cr. 3

Examination of the responsibilities and skills needed to function as a professional lighting designer. Varied styles of theatrical production, the lighting designer's communication with other professionals, use of computers in lighting design process, graphic presentation of lighting design concepts. Offered Yearly.

Prerequisite: THR 5300 with a minimum grade of C or THR 5335 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$45

THR 6335 Professional Lighting Design II Cr. 3

Continuation of THR 6090 or THR 6331. Employment of theatrical lighting techniques in non-theatrical applications such as film and video; preparation and presentation of a lighting design portfolio; roles of unions in theatrical lighting design. Offered Biannually (Winter).

Prerequisite: THR 5300 with a minimum grade of C or THR 5335 with a minimum grade of C

Course Material Fees: \$45

THR 6361 Design Studio I Cr. 2

Studio study and application of graphics which support development and representation of the design idea. Rendering techniques, presentational styles, computer graphics. Offered Winter.

Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 6365 Design Studio II Cr. 2

Continuation of THR 6210 or THR 6361. Offered Fall.

Prerequisite: THR 6210 with a minimum grade of C or THR 6361 with a minimum grade of C

THR 6381 Styles of Design Cr. 3

Survey and analysis of theatrical styles of production in European and American theatre, related to historical theory and practice. Research and comparative analysis; some laboratory project work. Offered Winter.

Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 6601 Studio I Cr. 2

Examination and analysis of a specific dramatic genre, style or historic period as it relates to acting, directing, or management. Correlative performance or other practical projects. Subject matter coordinated with the repertory of Hilberry Theatre. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 6605 Studio II Cr. 2

Continuation of THR 6010 or THR 6601. Offered Winter.

Prerequisite: THR 6010 with a minimum grade of C or THR 6601 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 6651 Public Relations and the Arts Cr. 3

Press writing and public relations for arts organizations. Topics include: writing, media relations, controlling public image. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 6661 Marketing the Theatre Cr. 3

Marketing strategies for arts organizations. Topics include: subscription and membership sales, individual ticket sales. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 6671 Interpersonal Dynamics Cr. 2

Relationships between individuals in the work environment; understanding differing behavioral styles amongst employees in the theatre. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 6675 Board Governance in the Theatre Cr. 2

How boards of directors govern theatres; how dynamics operate between management and boards. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 6711 World Performance Studies I Cr. 3

Research/studio course examining styles of the late twentieth century to the present; includes spoken word, dance, and multi-media performance art. Introduction to directors and performers such as: Robert Wilson, Spalding Gray, Sekou Sundiata, Robert LePage, Peter Brook. Emphasis on creating ensemble performance work. Offered for graduate credit only. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students.

THR 7211 Acting Studio III: Advanced Michael Chekhov Technique Cr. 2

Exploration of characterization through study of archetypes, centers, imaginary body, creative individuality, composition of space and connection to the audience. Subject matter will be supported by mask work and the techniques of Jacques LeCoq; and the study of High Comedy. Offered Fall.

Prerequisite: THR 6215 with a minimum grade of C or THR 6020 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7215 Acting Studio IV: Advanced Study of Active Analysis and Physical Approach to Acting Cr. 2

Advanced Stanislavski practices and exploration of other approaches to the study of physical theatre. Subject matter will explore contemporary, post-modern and devised texts. Offered Winter.

Prerequisite: THR 7211 with a minimum grade of C or THR 7050 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7221 Theatrical Movement IV: Dance Techniques Cr. 1

Broadway and social dance techniques. Offered Fall.

Prerequisite: THR 6110 with a minimum grade of C or THR 6225 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7225 Theatrical Movement IV - Ensemble Physicality Cr. 1

Viewpoints; ensemble-generated expressive movement. Offered Winter.

Prerequisite: THR 7020 with a minimum grade of C or THR 7221 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7231 Voice and Speech III - Vocalizing Heightened Language & Shakespeare Cr. 1

Application of voice and speech techniques to Shakespeare and heightened language, with additional studies in verse analysis. Offered Fall.

Prerequisite: THR 6100 with a minimum grade of C or THR 6235 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7235 Voice and Speech IV: Musical Theatre & Singing Techniques Cr. 1

Improving the singing voice and applying the work to musical theatre performance. Continuation of Narrow phonetic transcription and Shakespearean phrasing; alliteration, antithesis, inflections, music; developing vocal power. Offered Winter.

Prerequisite: THR 7010 with a minimum grade of C or THR 7231 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7271 Acting for the Camera Cr. 3

Acting technique and practice with an emphasis on developing the technical and emotional adjustments required for success in Film, TV and industry acting. Units include adjusting theatre acting technique for Film and TV; learning to ""hit marks"" and to understand frame sizes; and developing video auditions. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 7281 Theatre Aesthetics Cr. 3

Contemporary and classical theories of performance in drama, musical theatre, and dance. Interactions of acting, design, music, dance, script, and audience. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$10

THR 7321 Costume History and Design I Cr. 3

Historical trends in fashion from ancient Egypt to Elizabethan England, as it pertains to theatre arts and its literature. Study of various periods and genres; design of costumes for plays of these periods based on a historical approach. Offered Biannually (Winter).

Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

THR 7325 Costume History and Design II Cr. 3

Continuation of THR 6600 or THR 7321. Historical trends in fashion from Jacobean England through the 21st Century. Offered Biannually (Fall).

Prerequisite: THR 6600 with a minimum grade of C or THR 7321 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

THR 7381 Architecture and Decor Cr. 3

Historical study of the form and elements of architecture and decoration; emphasis on theatrical design. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$20

THR 7389 Design Internship Cr. 3

Students are involved with the creative process and execution of a design element for a production at a commercial theatre in the Detroit Metro area. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 7581 Repertory Theatre: Acting Cr. 1-4

Supervised experience in the Classic Theatre repertory program. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 18 Credits

THR 7582 Repertory Theatre: Design Cr. 1-4

Supervised experience in practical application of design and technology specific to the design and implementation required to produce classical and contemporary theatre in a repertory model. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 18 Credits

THR 7583 Repertory Theatre: Stage Management Cr. 1-4

Supervised experience in practical application of stage management techniques and processes required to produce classical and contemporary theatre in a repertory model. Offered Winter.

Restriction(s): Enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 18 Credits

THR 7584 Repertory Theatre Management Cr. 1-3

Supervised experience in various management assignments for WSU and for public relations activities for the Theatre Department. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 18 Credits

THR 7601 Studio III Cr. 2

Continuation of THR 6020 or THR 6605. Offered Fall.

Prerequisite: THR 6020 with a minimum grade of C or THR 6605 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

THR 7605 Studio IV Cr. 2

Continuation of THR 7050 or THR 7601. Offered Winter.

Prerequisite: THR 7050 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 7651 Leadership in the Arts Cr. 3

Modern leadership skills and techniques in theatre and in external environments. Topics include visioning, team building, consensus building, leadership communications, distinctions and similarities between leadership and management. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 7655 Human Resources and Financial Management for the Arts Cr. 3

Topics include: leadership, group dynamics, staffing, employment and production-related contracts, accounting and budgeting for non-profit. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 7661 Market Data and Decisions in the Arts Cr. 2

Market data and analyzing techniques used in theatre; making informed short-term and long-term decisions. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 7665 Sourcing and Managing Project Funds Cr. 2

Using a theatre project as a collateral source (investment or social enterprise) for financial support; attaining support through sponsorships, grants, personal relationships, and investors in the theatre Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 7671 Funding and Grant writing for the Arts Cr. 3

Fund-raising strategies and the arts. Topics include: individual (annual and planned) giving, corporate giving, grant-making. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 7741 Dramaturgy Cr. 3

Study and preparation of dramatic texts for production; historical, socio-political and theoretical perspectives for production dramaturgy and literary management. Offered Irregularly.

Restriction(s): Enrollment is limited to students with a major in Theatre and Dance; enrollment is limited to Graduate level students.

Course Material Fees: \$10

THR 7751 Study Abroad: Directed Study in Russian Theatre Cr. 1-3

Focused studies on Russian theatre, performance, design and production; directed studies in contemporary Russian. Offered Spring/Summer.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 99 Credits

THR 7891 Seminar: Dramatic Literature Cr. 3

Study of selected dramatic genres, styles, periods, or playwrights. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 7901 Research Methods in Theatre and Dance Cr. 3

Principles and methods of research and documentation; use of research aids and guides in theatre study and practice. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

THR 7951 Foundations of Theatre and Dance Pedagogy Cr. 3

Historical, philosophical, cultural, and ethical dimensions of teaching and learning in multiple dance and theatre environments. Web course. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 7990 Directed Study Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 4 Credits

THR 7999 Master's Essay Direction Cr. 1-4

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Repeatable for 4 Credits

THR 8211 Acting Studio V: Preparation for the Profession Cr. 2

Preparation and development of the professional head shot and resume; creation of personal website, and scene selection for the industry showcase. Subject matter will explore camera acting techniques, utilizing television scripts and screenplays. Offered Fall.

Prerequisite: THR 7215 with a minimum grade of C or THR 7060 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 8215 Acting Studio VI: Audition and Composition Cr. 2

Development and execution of the industry showcase; performance and interviews with industry specialists. Subject matter will focus on character types for the individual actor and development of an original solo piece or group devised work. Offered Winter.

Prerequisite: THR 8211 with a minimum grade of C or THR 7110 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students.

Course Material Fees: \$15

THR 8221 Theatrical Movement V - Acrobatics Cr. 1

Partner Russian Movement (acrobatics) and etude work. Offered Fall.

Prerequisite: THR 7100 with a minimum grade of C or THR 7225 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 8225 Theatrical Movement VI - Composition and Physical Devising Cr. 1

Physical composition class building on previous techniques, working toward original devised performance pieces. Offered Winter.

Prerequisite: THR 7140 with a minimum grade of C or THR 8221 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 8231 Voice and Speech V: Accents & Dialects for Stage and Media Cr. 1

Studies in analyzing, learning, and performing accents & dialects for stage and film. Offered Fall.

Prerequisite: THR 7090 with a minimum grade of C or THR 7235 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 8235 Voice and Speech VI - Media Techniques Cr. 1

Studies in the techniques needed for performance in voice-overs and camera. Offered Winter.

Prerequisite: THR 7180 with a minimum grade of C or THR 8231 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$15

THR 8301 Design Studio III Cr. 2

Continuation of THR 6220 or THR 6365. Offered Winter.

Prerequisite: THR 6220 with a minimum grade of C or THR 6365 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8305 Design Studio IV Cr. 2

Continuation of THR 7210 or THR 8301. Offered Fall.

Prerequisite: THR 7210 with a minimum grade of C or THR 8301 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8580 Advanced Theatre Practicum Cr. 1-2

Public performances in the dramatic productions of the University's Bonstelle Theatre. Credit determined by complexity of dramatic role performed. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 11 Credits

THR 8581 Advanced Theatre Studio Cr. 1-3

Supervised laboratory practice in technical theatre and theatre management. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Repeatable for 3 Credits

THR 8601 Studio V Cr. 2

Continuation of THR 7060 or THR 7605; further practical studies in various theatre crafts. Offered Fall.

Prerequisite: THR 7060 with a minimum grade of C or THR 7605 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8605 Studio VI Cr. 2

Continuation of THR 7110 or THR 8601; further practical studies in various theatre crafts. Offered Winter.

Prerequisite: THR 7110 with a minimum grade of C or THR 8601 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8651 Entrepreneurship in the Theatre Cr. 3

Elements involved in new theatre development, including business plan, municipal coordination, financing of new projects, creation of a theatre business office, long-term strategic planning, creation of a 501(c)(3), and board development. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 8661 The Media and the Theatre Cr. 2

Writing and working with the media: press releases, public service announcements, magazine queries, radio and television spot writing; using print and electronic media through features and interviews. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8665 Managing Groups and Teams Cr. 2

Relationships between teams; how teams can be utilized to improve work performance. Practices used to strengthen confidence in supervisory skills. Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

Course Material Fees: \$10

THR 8689 Internships in Theatre Management Cr. 3

Planning and execution of projects in theatre management; evaluation of project effectiveness. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8701 Seminar: Performance Studies Cr. 3

Study of performance as an organizing principle for analysis of a wide range of behaviors and situations. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 8711 Seminar: Directing Cr. 3

Discussion of selected topics in directing theory. Development and class presentation of directing concepts for plays in diverse styles, conceived for existing and theoretical theatre spaces; coordination of directing with design. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 998.99 Credits

THR 8871 Seminar: Dramatic Theory and Criticism Cr. 3

Major documents and principles of dramatic critics and theorists. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 8875 Seminar: Research Topics in Theatre and Drama Cr. 3

In-depth research on selected topics in theatre and dance. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 8890 Proseminar Cr. 1

Departmental expectations are presented for doctoral core classes, qualifying examination, reading list, dissertation, and teaching assistant assignments. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 2 Credits

THR 8901 Seminar: Theatre History Cr. 3

Selected topics in theatre history. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 8941 Teaching Internship I Cr. 3

Assisting faculty members in teaching first-semester undergraduate-level courses. Offered Fall.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8945 Teaching Internship II Cr. 3

Assisting faculty members in teaching second-semester undergraduate-level courses. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8951 Art and Human Development Cr. 3

Integrated approaches for the arts for early childhood, youth and adolescents, and older adults. Web class. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

THR 8961 Artistic Praxis Cr. 3

Research and analysis of artistic practice leading to informed action; particular emphasis on the role of critical reflection in aesthetic development and evaluation of outcomes. Web class. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

THR 8965 Principles of Teaching Artistry Cr. 3

Research-based seminar on aspects of management administration, integrated arts, and assessment in multiple dance and theatre teaching artist environments. Web course. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

THR 8991 MFA Management Exit Project Cr. 1-3

Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8992 MFA Design Exit Project Cr. 2

Demonstration in the specific design area in the skills developed by the student designer. Portfolio presentation developed in consultation between the student and the design area advisor. Offered Winter.

Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8995 MFA Acting Exit Project Cr. 3

Course designed to bridge from academia to the professional world. Selection, research and execution of seven monologues from a variety of period texts; development of a professional website; research and documentation of the artist's job market in a chosen geographic area. The course culminates in a final Oral Examination by each student's M.F.A. Exit Committee. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 8998 MFA Theatre Management Exit Project Cr. 3

Course designed to bridge from academia to the professional world. Development of a professional website and portfolio; research and documentation of the manager's job market in a chosen geographic area. The course culminates in a final Oral Examination by each student's M.F.A. Exit Committee. Offered Winter.

Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.

Repeatable for 8 Credits

THR 9990 Pre-Doctoral Candidacy Research Cr. 1-8

Offered Every Term.

Restriction(s): Enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

Repeatable for 12 Credits

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

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

Offered Every Term.

Prerequisite: THR 9991 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

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

Offered Every Term.

Prerequisite: THR 9992 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

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

Offered Every Term.

Prerequisite: THR 9993 with a minimum grade of S

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

Course Material Fees: \$348.67

Repeatable for 0 Credits

UGR - UNDERGRADUATE RESEARCH

UGR 1050 Research Methods - BUILD Scholars Cr. 1

A one-semester course that is part of the BUILD program and is designed to help students prepare for the Research-based laboratory courses BUILD Scholars will take in the Winter Term. Offered Fall.

UGR 1100 Wayne Med Direct Summer Research Program Cr. 3

Designed to provide a basic science research experience. Successful completion of this course is mandatory for all scholars as a part of the Wayne Med-Direct program. Offered Spring/Summer.

Prerequisite: UGR 1050 with a minimum grade of D-

UKR - UKRAINIAN

UP - URBAN PLANNING

UP 3530 Urban and Regional Planning Cr. 3

Introduction to urban and regional planning concepts, including zoning, growth management and economic development. Emphasis on metropolitan Detroit. Offered Yearly.

Prerequisites: ((US 2000 with a minimum grade of D-))

Equivalent: US 3530

UP 5010 Resources and Communication in Planning Cr. 3

Introduction to the use of basic tools and techniques of professional planning practice, including data resources, computer applications, map and plan preparation, presentation techniques. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 5110 Urban Planning Process Cr. 3

Scope and historical development of planning. Topics relevant to the practice of planning: theory, planning practice, social and physical development policy. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 5430 Cities and Food Cr. 3

Analysis of urban food systems for their social, economic, health and environmental impacts; discussion of strategies to develop sustainable alternatives. Offered Winter.

UP 5610 Managing Public Participation Cr. 3

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. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

UP 5650 Metropolitan Detroit Cr. 3

Comprehensive analysis of metropolitan Detroit: city, suburbs and surrounding region. Historical development, physical foundations, economic and political expansion, ethnic and cultural areas, geopolitical infrastructure, social change, present-day problems and current events shaping the area's spatial structure. Offered Yearly.

Equivalent: GPH 5650

UP 5670 Modern American Cities Cr. 4

History of U.S. cities since World War II. Topics include suburbanization, deindustrialization, gentrification, and globalization. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

Equivalent: HIS 5670

UP 5820 Urban and Regional Economics Cr. 4

Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

Equivalent: ECO 5800

UP 5999 Special Topics Cr. 1-4

Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

UP 6120 Planning Studies and Methods Cr. 4

Economic base, population, and land use studies. Discussion of approaches used to solve selected community development problems. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6210 Urban Design Elements Cr. 3

Introduction to the role of urban design and the concept of design criteria, design variables, and terminology. Offered Biannually.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6260 Land Use Policy and Planning Cr. 3

Role of economics, history, and technology in shaping land use patterns within limits established by public policies and the legal system.

Development of conceptual and practical skills for effective ethical intervention in local land markets. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

UP 6310 Real Estate Development Cr. 3

Process of urban real estate development; emphasis on market analysis, the construction process, and finance. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6320 Quantitative Techniques I Cr. 4

Statistical inference with emphasis on applications including central tendency, dispersion, hypothesis testing, correlation and regression. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

Equivalent: GPH 6420

UP 6340 Community Development Cr. 3

Overview of contemporary community development practice in U.S. cities with emphasis on community-based approaches and the role of non-profit organizations. Housing and economic development aspects of neighborhood revitalization; social and political development. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

UP 6350 Housing Policy and Programs Cr. 3

Governmental housing policies and programs at the Federal, state and local levels. Role of community-based organizations in housing activities. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6455 Discrimination and Fair Housing Cr. 3

Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Biannually.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

Equivalent: AFS 6455, ECO 6455, PS 6455, SOC 6455, US 6455

UP 6470 Environmental Planning Cr. 3

Overview of local and regional environmental planning and policy. Rationale and ethics of environmental interventions; major elements of environmental plans and impact statements; current approaches to environmental problems. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

UP 6510 Urban and Regional Systems Cr. 3

Theory course dealing with concepts, processes and organization of urban and metropolitan regions, primarily focusing on the western world experience. Primary focus on system structure and change in response to market forces, technology, and public policy. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6520 Transportation Policy and Planning Cr. 3

Introduction to the role of transportation in the planning process involving both regional and urban considerations. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6550 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3

Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Biannually.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

Equivalent: ECO 6650, PS 6440

UP 6570 Local Economic Development: Implementation and Finance Cr. 3

Detailed examination of economic development programs available to local governments for commercial revitalization (neighborhood and downtown), and industrial development and redevelopment. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

UP 6650 Planning and Development Law Cr. 3

Techniques available to guide land development. Concepts in zoning, subdivision regulations, timing and sequence of land development. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6680 Neighborhood Decline and Revitalization Cr. 3

Examination of reasons for neighborhood change and how plans and policies can be specified and implemented for neighborhood improvement. Offered for graduate credit only. Offered Biannually.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6700 Geographic Information Systems Cr. 4

Principles and applications of GIS, including spatial statistics, computer graphics, computer cartography. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

Equivalent: GPH 6700

UP 6750 State and Local Public Finance Cr. 4

Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

Equivalent: ECO 6520

UP 6830 Advanced GIS Applications Cr. 4

Use of GIS for spatial analysis and computer cartography. Offered for graduate credit only. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor; enrollment is limited to Graduate level students.

UP 7000 Detroit Revitalization Project Cr. 0

Employment placements in Detroit public and private institutions and companies for the purpose of workshop experience in practical solutions to urban and community revitalization. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

UP 7010 Planning and Decision Theory Cr. 3

Review of political, ethical, professional dimensions of planning; models of planning; communicative and group processes; negotiation and conflict resolution; decision-making in contexts characterized by uncertainty and complexity. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

UP 7030 Class, Race, and Politics in America Cr. 3

Historical and analytic investigation into the role of class and race in American politics. Offered Irregularly.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AFS 6100, HIS 5110, PS 6050, SOC 7330

UP 7260 Urban Poverty and Racial Segregation Cr. 3

Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of "underclass" debate. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

Equivalent: AFS 6600, ANT 7260, PS 7260, SOC 7350

UP 7500 Master's Professional Report Cr. 3

Applies the skills and competencies learned in the program on a project of the student's choosing. Under the close guidance of a MUP faculty member, the student will study a planning topic, issue, or community project and write a professional report based on this study with implications for local practice/policy. The goal is that the student demonstrate an understanding of urban planning theory and practice, public policy and planning processes, analytical techniques, and appropriate professional writing and analysis skills. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

UP 7700 Projects in Urban Planning Cr. 4

Development and application of research design to specified urban problems. Offered Biannually.

Restriction(s): Enrollment is limited to Graduate level students.

UP 7800 Internship in Planning Cr. 1-3

Practicum for MUP Program. Field placement with public or nonprofit agency assigned by Urban Planning Intern Coordinator. Offered Yearly.

Restriction(s): Enrollment is limited to Graduate level students.

UP 7810 Internship in Community Food Systems Planning Cr. 3

Practicum in community food systems planning. Field placement with public or nonprofit agency or private firm assigned by the Urban Planning Intern Coordinator. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

UP 7990 Directed Study Cr. 1-4

Independent reading and research. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 8 Credits

UP 7996 Research Topics Cr. 1-4

Individual problems in urban planning. Offered Every Term.

Restriction(s): Enrollment is limited to Graduate level students.

Repeatable for 6 Credits

UP 7999 Master's Essay Direction Cr. 3

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

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

Offered Every Term.

Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to Graduate level students.

Repeatable for 8 Credits

US - URBAN STUDIES

US 2000 Introduction to Urban Studies Cr. 4

Urban phenomena, past and present, quality and nature of urban life, major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.

Equivalent: GPH 2000, HIS 2000, PS 2000, SOC 2500

US 2350 Black Detroit Cr. 3

Explores the historical, cultural and structural aspects of the Black urban experience in Detroit from the late 19th Century to the present, including the role that racism, urbanization and suburbanization have played in shaping racial, spatial and economic inequality in the Detroit Metropolitan area. Utilizes an interdisciplinary approach: to interrogate the social and cultural history of Black Detroit, to examine the various forms of Black social movement activism used by Black Detroiters in the 20th Century, and to analyze ways the shifting economic and political currents shaped, and reshaped racism, class, space, and resistance in the Detroit metropolitan area. Offered Fall, Winter.

Equivalent: AFS 2350, HIS 2350

US 3530 Urban and Regional Planning Cr. 3

Introduction to urban and regional planning concepts, including zoning, growth management and economic development. Emphasis on metropolitan Detroit. Offered Yearly.

Prerequisites: ([US 2000 with a minimum grade of D-])

Equivalent: UP 3530

US 3650 History of Detroit Cr. 3

History of Detroit from European contact to the present, with emphasis on the late-19th and 20th centuries. Offered Irregularly.

Equivalent: HIS 3650

US 4420 Methods for Urban Studies Cr. 4

Introduction to relevant data sources, such as the U.S. Census, American Community Survey, and County Business Patterns; presentation of quantitative and spatial data using geographic information systems and spatial mapping; introduction to basic statistics for use in urban studies. Offered Yearly.

Prerequisite: US 2000 with a minimum grade of C- or SOC 2500 with a minimum grade of C- or GPH 2000 with a minimum grade of C- or HIS 2000 with a minimum grade of C- or PS 2000 with a minimum grade of C-

Restriction(s): Enrollment is limited to Undergraduate level students.

US 4510 Cities and Regions Cr. 3

Processes of urbanization and metropolitanization in both the western and non-western worlds. Offered Winter.

Prerequisites: ([US 2000 with a minimum grade of D-] OR [GPH 2000 with a minimum grade of D-] OR [HIS 2000 with a minimum grade of D-] OR [PS 2000 with a minimum grade of D-] OR [SOC 2000 with a minimum grade of D-])

Equivalent: GPH 4510

US 4620 Urban Studies Senior Capstone Research Cr. 3

Development and application of research design to specified urban problems. Offered Yearly.

Prerequisites: ([US 4420 with a minimum grade of D-] OR [GPH 6420 with a minimum grade of D-] OR [CRJ 4860 with a minimum grade of D-] OR [SOC 4200 with a minimum grade of D-] OR [PS 3600 with a minimum grade of D-])

Restriction(s): Enrollment is limited to Undergraduate level students.

US 6000 Internship Cr. 1-4

Placement in government agencies or the non-governmental sector that provide working experience related to urban issues. Offered for undergraduate credit only. Offered Every Term.

Restriction(s): Enrollment is limited to Undergraduate level students.

Repeatable for 4 Credits

US 6455 Discrimination and Fair Housing Cr. 3

Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Biannually.

Equivalent: AFS 6455, ECO 6455, PS 6455, SOC 6455, UP 6455

FACULTY A-Z

A list of university librarians and archivists (p. 868) follows the list of faculty.

The list of faculty is updated during the normal bulletin revision process. Requests to update the faculty database must be made using the faculty list amendment forms (p. 870).

A

AARON, CYNTHIA: M.D., Medical College of Pennsylvania; B.A., Wesleyan University; Professor (Clinician-Educator), Emergency Medicine, Pediatrics

ABBASI, TARIQ: M.D., Osmania Medical College; Clinical Instructor, Psychiatry and Behavioral Neurosciences

ABBEY, ANTONIA: Ph.D., M.A., Northwestern University; B.A., University of Michigan; Professor, Psychology

ABBOTT, VALERIE: M.D., Ohio State University; B.S., University of Michigan; Clinical Assistant Professor, Pediatrics, Internal Medicine

ABBRECHT, MARTIN M.: M.D., University of Michigan; Clinical Assistant Professor, Dermatology

ABDALLAH, KHALED: M.B.B.S., Jordan University of Science and Technology; Clinical Assistant Professor, Radiology

ABDELRAHMAN, ANAN ADIB: M.B., Ain Shams University; Clinical Assistant Professor, Obstetrics and Gynecology

ABDUL-NOUR, KHALED: M.D., St. Joseph Jesuits University Medical School; Clinical Assistant Professor, Internal Medicine

ABDULHAK, MUWAFFAK: M.D., University of Aleppo; Clinical Assistant Professor, Neurological Surgery

ABDULHAMID, IBRAHIM: M.D., Garyounis University; M.S., Ohio State University; Associate Professor (Clinician-Educator), Pediatrics

ABDULLAH, SAIF: M.B.Ch.B., College of Medicine, Baghdad University; Clinical Instructor, Internal Medicine

ABED, HUSAM: M.B.Ch.B., College of Medicine, Al-Mustanseriyah University; Clinical Assistant Professor, Obstetrics and Gynecology

ABEL, ERNEST L.: Ph.D., M.A., B.A., University of Toronto; Professor, Psychology, Obstetrics and Gynecology

ABI-ANTOUN, MARWAN: Ph.D., Carnegie Mellon University; M.S., University of Southern California; B.S., American University of Beirut; Assistant Professor, Computer Science

ABIANEH, OMID SAMIMI: Ph.D. and M.S., University of Alabama-Huntsville; Assistant Professor, Mechanical Engineering

ABIDI, MUNEEB H.: M.D., Aga Khan University Karachi; Associate Professor (Clinician-Educator), Internal Medicine, Cancer Institute

ABOULJOURD, MARWAN: M.D., B.S., American University of Beirut; Associate Professor (Clinician-Educator), Surgery

ABRAHAM, FLOMMY: M.D., Catholic University of Lilly; Clinical Assistant Professor, Pediatrics

ABRAMOWICZ, JACQUES: M.D., Tel-Aviv University; Professor (Clinician-Educator), Obstetrics and Gynecology

ABRAMOWICZ, SARAH: J.D., Ph.D., Columbia University; B.A., Stanford University; Associate Professor, Law

ABRAMS, GARY: M.D., University of Oklahoma; Professor, Ophthalmology

ABRAMS, JUDITH: Ph.D., George Washington University; M.S., Rutgers University; B.A., Michigan State University; Professor (Research Educator), Oncology

ABRAMSON, HANLEY N.: Ph.D., M.S., University of Michigan; B.S., Wayne State University; Professor, Pharmaceutical Sciences

ABT, JEFFREY: M.F.A., B.F.A., Drake University; Professor, Art

ABU-SOUD, HUSAM: Ph.D., Wivehoe University; B.Sc., Kuwait University; Associate Professor, Obstetrics and Gynecology

ABUEL, VICTOR: M.D., B.S., Wayne State University; Clinical Assistant Professor, Emergency Medicine

ABURABIA, MAJ.D.: M.D., University of North Carolina; B.S., Boston College; Clinical Assistant Professor, Surgery

ABUZEID, MOSTAFA: M.B.B.S., Cairo University; Clinical Professor, Obstetrics and Gynecology

ACKERMAN, ROBERT M.: J.D., Harvard University; B.A., Colgate University; Professor, Law

ACKERMAN, SHARON H.: Ph.D., M.S., New York University; B.S., George Washington University; Associate Professor, Biochemistry and Molecular Biology

ADAMO, DIANE: Ph.D., University of Michigan; M.S., B.S., Wayne State University; Associate Professor, Physical Therapy

ADAMS, JOHN: M.D., Wayne State University; B.S., University of Detroit; Clinical Associate Professor, Pediatrics

ABEL HAQ, NAHED: M.B.B.S., University of Jordan; Associate Professor, Pediatrics

ADDEPALI, ARADHANA: M.B.B.S., Osmania Medical College; Assistant Professor (Clinician-Educator), Internal Medicine

ADDONIZIO, MICHAEL F.: Ph.D., M.A., Michigan State University; M.P.P., University of Michigan; B.A., College of the Holy Cross; Professor, Education, Administration & Organizational Studies

ADELEYE, ANTHONY: M.D., Michigan State University; M.P.H., University of Michigan; B.S., Howard University; Clinical Instructor, Urology

ADELMAN, BRUCE: M.D., Wayne State University; B.S., University of Michigan; Clinical Assistant Professor, Anesthesiology

ADELMAN, MARC: D.O., Michigan State University; B.S., Wayne State University; Clinical Assistant Professor, Obstetrics and Gynecology

ADELMAN, MARTIN J.: J.D., M.S., B.A., University of Michigan; Professor Emeritus, Law

ADHIKARI, AMITA: M.B.B.S., Tribhuvan University; Assistant Professor (Clinician-Educator), Pediatrics

ADLER, EDWARD: M.D., B.S., University of Michigan; Clinical Assistant Professor, Internal Medicine

ADLER, JOSHUA: M.D., University of Pennsylvania; B.A., Yeshiva University; Clinical Professor, Neurology

AFONSO, LUIS: M.B.B.S., Goa Medical College; Professor (Clinician-Educator), Internal Medicine

AGARWAL, PRASHANT: M.B.B.S., Ahmedabad Medical College; Assistant Professor, Pediatrics

AGARWAL, RAJKUMAR: M.B.B.S., University Mumbai; Assistant Professor, Pediatrics

AGGARWAL, SANJEEV: M.D., Maulana Azad Medical College; Associate Professor (Clinician-Educator), Pediatrics

AGNONE, EUGENE J.: M.D., Wayne State University; B.S., University of Notre Dame; Clinical Assistant Professor, Internal Medicine

AGUIN, TINA: M.D., Wayne State University; B.S., Lake Superior State University; Assistant Professor (Clinician-Educator), Obstetrics and Gynecology

AGUIRRE, ANTONIO A.: M.D., University of Santo Tomas; B.A., Letran College; Clinical Assistant Professor, Family Medicine and Public Health Sciences

AGUIRRE, ROBERT A.: Ph.D., M.A., Harvard University; B.A., University of California at Santa Barbara; Associate Professor, English, Associate Dean, College of Liberal Arts & Sciences

AGUWA, CELESTINE C.: Ph.D., University of Pittsburgh; M.S., University of Massachusetts; B.Arch., University of Nigeria; Associate Professor (Research), Industrial and Systems Engineering

AHMAD, AFTAB: M.B.B.S., University of Punjab; M.B.A., Oakland University; Clinical Assistant Professor, Internal Medicine

AHMED, MUZAMMIL: M.D., B.A., University of Michigan; Clinical Assistant Professor, Urology

AHMED, RIFFAT: M.B.B.S., Fatima Jinnah Medical College; Clinical Instructor, Radiology

AHMED, SAMEERA: Ph.D., M.A., Faileigh Dickinson; M.S., Bowling Green State University; B.A., University of Michigan; Clinical Assistant Professor, Psychiatry and Behavioral Neurosciences

AHMED, TAGELDIN: M.B.B.S., University of Khartoum; Assistant Professor (Clinician-Educator), Pediatrics

AHMED, ZULFIQAR: M.D., Sindh Medical College; Clinical Assistant Professor, Anesthesiology

AHN, YOUNG-HOON: Ph.D., New York University; B.S., Pohang University Science and Technology; Assistant Professor, Chemistry

AHO, TODD: M.D., B.A., Wayne State University; Clinical Assistant Professor, Radiology

AHSAN, SAMIRA: M.B.B.S., Nishtar Medical College; Clinical Assistant Professor, Internal Medicine

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The faculty list is limited to full-time, salaried appointments and emerita/emeritus appointments. Examples of full-time appointments include: professor, associate professor and assistant professor; research or clinical faculty; and instructor, lecturer and senior lecturer.

INDEX

A

Academic Calendar 2017 - 2018	10	AME - Art: Metalsmithing	347
Academic Regulations	12	AN - Anesthesia	348
Academic Regulations	274	ANA - Anatomy and Cell Biology	350
Academic Regulations for the College of Education	82	Anatomy and Cell Biology	243
Academic Regulations for the College of Engineering	118	Anatomy and Cell Biology (M.S. and Ph.D.)	243
Academic Regulations for the College of Fine, Performing, and Communication Arts	136	Anesthesia (M.S.)	277
Academic Regulations for the College of Liberal Arts and Sciences	178	Anesthesiology	237
Academic Regulations for the College of Nursing	259	ANT - Anthropology	351
Academic Regulations for the Mike Ilitch School of Business	67	Anthropology	180
Academic Services	86	Anthropology (M.A.)	180
ACC - Accounting	320	Anthropology (Ph.D.)	181
Accounting (M.S.A.)	70	APA - Art: Painting	356
Accounting (Post-Bachelor's Certificate)	71	APH - Art: Photography	358
Accreditation	15	Applied Behavior Analysis (Graduate Certificate)	112
ACO - Art: Core	324	Applied Mathematics (M.A.)	202
ACR - Art: Ceramics	325	APR - Art: Printmaking	359
ACS - Art: Special Seminars	326	APX - Academic Pathway Excellence	361
ADA - Art: Digital Art	327	ARB - Arabic	362
Adapted Physical Education (Teaching Endorsement)	94	Archival Administration (Graduate Certificate)	226
Administration and Supervision (Education Specialist Certificate)	88	ARM - Armenian	363
Administration of the University	16	Art and Art History	138
Administrative and Organizational Studies	87	Art Education (M.Ed.)	99
Admission: Graduate School	17	Art History (M.A.)	138
Admissions Policies and Procedures (J.D. Program)	157	Art (M.A.)	138
ADN - Art: Design	328	Art (M.F.A.)	138
ADR - Art: Drawing	329	Arts Administration (M.A.)	148
Adult Gerontology Nurse Practitioner Acute Care (Graduate Certificate)	269	ASL - Art: Sculpture	364
Advanced Studies in School Psychology (Graduate Certificate)	112	ASN - Asian Studies	365
AED - Art Education	331	AST - Astronomy	366
AET - Alternative Energy Technology	333	AUD - Audiology	367
AFA - Art: Design and Merchandising	334	Audiology (Au.D.)	191
AFI - Art: Fibers	336	B	
AFS - African American Studies	337	BA - Business Administration	369
AGD - Art: Graphic Design	340	Basic Medical Sciences (M.S.)	244
AGRADE - Accelerated Graduate Enrollment	71	BBE - Bilingual/Bicultural Education	372
AH - Art History	342	BE - Basic Engineering	373
AIA - Art: Interior Design	344	Bilingual Education (Bridge Graduate Certificate)	100
AID - Art: Industrial Design	346	BIO - Biological Sciences	375
Alcohol and Drug Abuse Studies (Graduate Certificate)	302	Biochemistry and Molecular Biology	245
Alternative Energy Technology (Graduate Certificate)	134	Biochemistry and Molecular Biology (M.S.)	245
Alternative Energy Technology (M.S.)	134	Biochemistry and Molecular Biology (Ph.D.)	245
		Biological Sciences	183
		Biological Sciences (M.A.)	184
		Biological Sciences (M.S.)	184
		Biological Sciences (Ph.D.)	184

Biomedical Engineering	120	College of Nursing	259
Biomedical Engineering (M.S.)	120	COM - Communication	415
Biomedical Engineering (Ph.D.)	121	Communication	139
Biomedical Imaging (dual-title program)	122	Communication and New Media (Graduate Certificate)	143
BLW - Business Law	381	Communication (M.A.)	139
BMB - Biochemistry and Molecular Biology	382	Communication (Ph.D.)	142
BME - Biomedical Engineering	383	Communication Sciences and Disorders	190
BMS - Basic Medical Science	389	Communication Sciences and Disorders (Ph.D.)	191
Business Administration and Law (M.B.A./J.D. Joint Degree)	77	Complementary Therapies in Healthcare (Graduate Certificate)	269
Business Administration (M.B.A. Program)	72	Computer Engineering (M.S.)	128
Business Administration (Ph.D.)	76	Computer Engineering (Ph.D.)	128
Business (Graduate Certificate)	72	Computer Science	125
C		Computer Science (M.S.)	125
Campus Life	20	Computer Science (Ph.D.)	126
Cancer Biology (M.S. and Ph.D.)	250	Computing and Information Technology Division (C&IT)	33
Career and Technical Education (M.Ed.)	100	Continuing Medical Education	235
CB - Cancer Biology	390	Counseling Education (Ed.D. and Ph.D.)	113
CE - Civil Engineering	392	Counseling (Education Specialist Certificate)	113
CED - Counselor Education	397	Counseling (M.A.)	113
Centers and Institutes	24	Counseling (M.Ed.)	113
CHE - Chemical Engineering	399	Counseling Psychology (M.A.)	114
Chemical Engineering and Materials Science	122	Courses A-Z	317
Chemical Engineering (M.S.)	123	Criminal Justice	191
Chemical Engineering (Ph.D.)	123	Criminal Justice (J.D./M.S. Joint Degree)	193
Chemistry	185	Criminal Justice (M.S.)	192
Chemistry (M.A. Program)	185	CRJ - Criminal Justice	424
Chemistry (M.S. Program)	186	CSC - Computer Science	427
Chemistry (Ph.D. Program)	186	CTE - Career and Technical Education	433
CHI - Chinese	403	Curriculum and Instruction (Ph.D. and Ed.D.)	100
CHM - Chemistry	404	D	
Civil and Environmental Engineering	124	Degree and Certificate Requirements	34
Civil Engineering (M.S.)	124	Dermatology	237
Civil Engineering (Ph.D.)	125	Dietetics (Post Bachelor Certificate)	207
CLA - Classics	410	Disabilities (Graduate Certificate)	303
Classical and Modern Languages, Literatures, and Cultures	187	Dispute Resolution (Graduate Certificate)	143
Classics (M.A.)	187	Dispute Resolution (M.A./J.D.)	143
Clinical and Translational Science (Bridge Graduate Certificate)	246	Dispute Resolution (M.A.D.R.)	144
Clinical Sciences	237	DNC - Dance	435
CLS - Clinical Laboratory Science	412	Doctor of Medicine	231
CMT - Construction Management Technology	414	Doctoral Degrees	85
College and University Teaching (Graduate Certificate)	89	DR - Dispute Resolution	439
College of Education	82	DSA - Data Science and Analytics	440
College of Engineering	117	DSB - Data Science for Business	441
College of Fine, Performing and Communication Arts	136	DSE - Data Science for Engineering	442
College of Liberal Arts and Sciences	178		

E	
Early Childhood Education, Infant Mental Health Dual-Title (Ph.D. Program)	101
ECE - Electrical and Computer Engineering	443
ECO - Economics	449
Economic Development (Graduate Certificate)	222
Economics	193
Economics and Law (M.A./J.D. Joint Degree)	195
Economics (M.A.)	193
Economics (Ph.D.)	194
ED - Education	455
EDA - Educational Administration	456
EDP - Educational Psychology	458
EDS - Educational Sociology	462
Education Specialist Certificate	84
Education Specialist Certificate	102
Educational Evaluation and Research (Ed.D. and Ph.D.)	114
Educational Evaluation and Research (M.Ed.)	114
Educational Leadership and Policy Studies (Ed.D.)	89
Educational Leadership and Policy Studies (Ph.D.)	90
Educational Leadership (M.Ed.)	89
Educational Outreach	40
Educational Psychology (M.Ed.)	114
Educational Psychology (Ph.D.)	115
Educational Technology (Bridge Graduate Certificate)	90
Educational Technology (State of Michigan Endorsement Recommendation)	90
EED - English Education	463
EER - Educational Evaluation and Research	464
EET - Electrical/Electronic Engineering Technology	466
EGR - Engineering: Special Topics	467
EHP - Educational History and Philosophy	468
EI - Entrepreneurship and Innovation	469
ELE - Elementary Education	470
Electric-drive Vehicle Engineering (Graduate Certificate)	135
Electric-drive Vehicle Engineering (M.S.)	135
Electrical and Computer Engineering	128
Electrical Engineering (M.S.)	128
Electrical Engineering (Ph.D.)	129
Elementary Education Major Leading K-8 Certification (M.A.T.)	102
ELI - English Language Institute	472
ELR - Employment and Labor Relations	475
Emergency Medicine	237
Employment and Labor Relations	195
Employment and Labor Relations (M.A.)	195
ENG - English	476
Engineering Management (M.S.)	131
Engineering Technology	129
Engineering Technology (M.S.)	129
English	196
English as a Second Language (Bridge Graduate Certificate)	104
English Education (Secondary) (M.Ed.)	104
English (M.A.)	196
English (Ph.D.)	196
EPS - Educational Leadership and Policy Studies	485
ET - Engineering Technology	486
ETT - Electrical Transportation Technology	488
Eugene Applebaum College of Pharmacy and Health Sciences	274
EVE - Electronic-drive Vehicle Engineering	489
F	
Faculty	79
Faculty	176
Faculty	229
Faculty	272
Faculty	308
Faculty A-Z	782
Faculty List Amendments	870
Family Medicine and Public Health Sciences	237
Field Education	305
FIN - Finance	491
Financial Assistance	42
FPC - Fine Arts: Interdisciplinary	494
FPH - Family Public Health	495
FRE - French	497
FYS - First Year Seminar	500
G	
GEL - Geology	501
General Information	9
Genetic Counseling (M.S.)	246
Geology	197
Geology (M.S.)	197
GER - German	503
German (M.A.)	188
Gerontology (Graduate Certificate)	303
GKA - Greek: Ancient	506
GKM - Greek: Modern	507
GLS - Global Studies	508
GPH - Geography	509
Graduate Bulletin	8
Graduate Certificate Programs	226
Graduate Certificate Programs	302

Graduate Certificates	269	Kinesiology (M.Ed.)	95
Graduate Degree Programs	295	Kinesiology (Ph.D.)	96
Graduate Programs	69	L	
Graduate Programs	260	Language Learning (M.A.)	188
Graduate Programs of the School of Medicine	241	LAS - Latino/Latina and Latin American Studies	548
GS - Graduate School	510	LAT - Latin	549
GSC - Global Supply Chain Management	511	Law Courses	159
GSW - Gender Sexuality and Women's Studies	514	Law (J.D. Program)	155
H		Law (LL.M. Program)	158
HE- Health Education	516	Law School	152
Health Communication (Graduate Certificate)	144	Law School Calendar 2016-18	152
Health Education (M.Ed.)	94	LDT - Learning Design and Technology	550
HEB - Hebrew	518	Learning Design and Technology (Ed.D.)	90
HIS - History	519	Learning Design and Technology (Education Specialist Certificate)	91
History	198	Learning Design and Technology (M.Ed.)	91
History and Law (M.A./J.D. Joint Degree)	200	Learning Design and Technology (Ph.D.)	92
History and Library and Information Sciences (M.A./M.L.I.S. Joint Degree)	200	LED - Language Education	554
History (M.A.)	198	LEX - Law	555
History (M.A.PH.)	199	LFA - Life Fitness Activities	572
History (Ph.D.)	199	LGL - Language Learning	574
HON - Honors	529	Library and Information Science and History (M.A./M.L.I.S. Joint Degree)	226
I		Library and Information Science (M.L.I.S.)	225
IBS - Interdisciplinary Biomedical Sciences	530	Library and Information Science (Specialist Certificate)	228
IE - Industrial Engineering	531	LIN - Linguistics	575
IM - Immunology and Microbiology	537	Linguistics	201
Immunology and Microbiology	247	Linguistics (M.A.)	201
Immunology and Microbiology (M.S.)	247	LIS - Library and Information Science	578
Immunology and Microbiology (Ph.D.)	247	M	
Industrial and Organizational Psychology (M.A.)	216	MAE - Mathematics Education	582
Industrial and Systems Engineering	130	Manufacturing Engineering (M.S.)	132
Industrial Engineering (M.S.)	131	Master's Degrees	83
Industrial Engineering (Ph.D.)	131	MAT - Mathematics	583
Infant Mental Health (Ph.D. dual-title program)	218	Materials Science and Engineering (M.S.)	124
Information Management (Graduate Certificate)	227	Materials Science and Engineering (Ph.D.)	124
Information Systems Management (Post-Bachelor's Certificate)	78	Mathematical Statistics (M.A.)	203
Injury Biomechanics (Bridge Graduate Certificate)	122	Mathematics	202
Internal Medicine	238	Mathematics (M.A.)	204
ISM - Information Systems Management	538	Mathematics (M.S.)	205
ITA - Italian	541	Mathematics (Ph.D.)	206
J		MCT - Mechanical Engineering Technology	590
JPN - Japanese Studies	543	MD - Medical Doctor	591
K		MD1 - Medical School: Year 1	592
KHS - Kinesiology, Health and Sport Studies	544	MD2 - Medical School: Year 2	593
KIN - Kinesiology	545	MD2 - Medical School: Year 3	594
Kinesiology, Health and Sport Studies	93	MD4 - Medical School: Year 4	595

MDR - Medical Research	607	Nursing Education (Graduate Certificate)	270
ME - Mechanical Engineering	608	Nursing (M.S.N.)	260
Mechanical Engineering	133	Nursing (Ph.D.)	266
Mechanical Engineering (M.S.)	133	Nutrition and Food Science	207
Mechanical Engineering (Ph.D.)	133	Nutrition and Food Science and Public Health (M.A./M.P.H. Joint Degree)	208
MED - Music Education	615	Nutrition and Food Science (M.A.)	207
Medical Physics (DMP)	251	Nutrition and Food Science (M.S.)	208
Medical Physics (Graduate Certificate)	252	Nutrition and Food Science (Ph.D.)	209
Medical Physics (M.S.)	252	O	
Medical Physics (Ph.D.)	252	Obstetrics and Gynecology	239
Medical Research (M.S.)	248	Occupational Therapy	279
Medical School Calendar, 2016 - 2018	231	Occupational Therapy (M.O.T.)	279
Medicine (M.D. Program)	233	Office of International Programs	45
MGG - Molecular Genetics and Genomics	616	Oncology	250
MGT - Management	618	Online Teaching (Bridge Graduate Certificate)	92
Mike Ilitch School of Business	67	Online Teaching (Graduate Certificate)	92
MIT - Manufacturing and Industrial Engineering Technology	621	Ophthalmology	239
MKT - Marketing	622	Orchestral Studies (Graduate Certificate)	148
MLIS Programs	225	Orthopaedic Surgery	239
Modern Languages (Ph.D.)	190	OT - Occupational Therapy	668
Molecular Biotechnology (M.S.)	184	Otolaryngology, Head and Neck Surgery	240
Molecular Genetics and Genomics	249	P	
Molecular Genetics and Genomics (M.S.)	249	PAA - Pathologists' Assistant	671
Molecular Genetics and Genomics (Ph.D.)	249	PAS - Physician Assistant Studies	674
MS - Mortuary Science	625	Pathologists' Assistant (M.S.)	280
MSE - Materials Science and Engineering	628	Pathologists' Assistant Program	280
MUA - Music Ensembles and General Courses	629	Pathology	253
MUH - Music History	633	Pathology (Ph.D.)	253
MUP - Music Private Instruction	635	PCS - Peace and Conflict Studies	676
Music	145	Peace and Conflict Studies	209
Music (M.A.)	145	Peace and Security Studies (Graduate Certificate)	209
Music (M.Mus.)	146	PED - Pediatrics	677
MUT - Music Theory	650	Pediatric Anesthesia (Graduate Certificate)	278
N		Pediatric Nurse Practitioner Acute Care (Graduate Certificate)	270
NE - Near Eastern Studies	653	Pediatric Nurse Practitioner Primary Care (Graduate Certificate)	271
Near Eastern Languages (M.A.)	189	Pediatrics	240
NEN - Nanoengineering	655	PH - Public Health	678
Neurological Surgery	238	PHA - Pharmacy	679
Neurology	239	Pharmaceutical Sciences	281
NFS - Nutrition and Food Science	656	Pharmaceutical Sciences (M.S.)	282
NUR - Nursing	660	Pharmaceutical Sciences (Ph.D.)	283
Nurse Anesthesia	277	Pharmacology	253
Nurse-Midwifery (Graduate Certificate)	270	Pharmacology (M.S. and Ph.D.)	254
Nursing & Infant Mental Health (D.N.P. or Ph.D. Dual-Title)	268	Pharmacy (Pharm.D.)	284
Nursing (D.N.P.)	264	Pharmacy (Pharm.D. Research Scholars)	287

Pharmacy Practice	283	Public Library Services to Children and Young Adults (Graduate Certificate)	229
PHC - Pharmacology	681	PYC - Psychiatry	721
PHI - Philosophy	682	R	
Philosophy	210	Radiologist Assistant Studies	293
Philosophy (M.A.)	210	Radiologist Assistant Studies (M.S.)	293
Philosophy (Ph.D.)	211	Radiology	241
PHY - Physics	686	RAS - Radiologist Assistant Studies	722
Physical Education Pedagogy (M.A.T.)	104	RCI - Rehabilitation Counseling and Community Inclusion	723
Physical Medicine and Rehabilitation - DMC	240	RDT - Radiologic Technology	724
Physical Medicine and Rehabilitation- Oakwood	240	Reading, Language and Literature (Ed.D.)	105
Physical Therapy	290	Reading (M.Ed.)	105
Physical Therapy (D.P.T.)	290	Records and Registration	51
Physician Assistant Studies	292	Rehabilitation Counseling and Community Inclusion (M.A.)	115
Physician Assistant Studies (M.S.)	292	RLL - Reading, Language and Literature Education	726
Physics and Astronomy	211	ROC - Radiation Oncology	728
Physics (M.A.)	211	Romance Languages (M.A.)	189
Physics (M.S.)	212	RT - Radiation Therapy Technology	730
Physics (Ph.D.)	212	RUS - Russian	732
Physiology	255	S	
Physiology (M.A. and Ph.D.)	255	SCE - Science Education	734
POL - Polish	691	School and Community Psychology (M.A.)	115
Political Science	213	School of Library and Information Science	224
Political Science and Law (M.A./J.D. Joint Degree)	214	School of Medicine	230
Political Science (M.A.)	214	School of Social Work	295
Political Science (Ph.D.)	215	Secondary Education Major (M.A.T.)	106
Polymer Engineering (Graduate Certificate)	124	SED - Special Education	735
Post-Bachelor's Teaching Certificate	84	SLA - Slavic	737
PPR - Pharmacy Practice	693	SLP - Speech and Language Pathology	738
Programs A-Z	309	SOC - Sociology	741
Programs Offered by the College of Engineering	134	Social Welfare Research and Evaluation (Graduate Certificate)	304
PS - Political Science	696	Social Work & Anthropology (SWAN Ph.D.)	300
PSC - Pharmaceutical Sciences	703	Social Work & Gerontology (Ph.D. Dual-Title)	302
PSL - Physiology	706	Social Work & Infant Mental Health (M.S.W. or Ph.D. Dual-Title)	302
PSY - Psychology	708	Social Work (M.S.W.)	295
Psychiatric Mental Health Nurse Practitioner (Graduate Certificate)	271	Social Work (Ph.D.)	298
Psychiatry and Behavioral Neurosciences	240	Social Work Practice with Families and Couples (Graduate Certificate) .	304
Psychology	216	Social Work/Anthropology SWAN (Ph.D.)	182
Psychology (M.A.)	216	Sociology	218
Psychology (Ph.D.)	216	Sociology (M.A.)	218
PT - Physical Therapy	716	Sociology (Ph.D.)	219
PTH - Pathology	720	SPA - Spanish	745
Public Administration (M.P.A.)	214	Special Education (Ph.D. and Ed.D.)	109
Public Health (M.P.H.)	256	Speech-Language Pathology (M.A.)	191
Public Health Practice (Graduate Certificate)	257	Sports Administration (M.A.)	96
Public Health Programs	256	SSE - Social Studies Education	749

STA - Statistics	750
STE - Sustainable Engineering	751
STS - Study Skills	752
Student Academic Success Services	54
Surgery	241
Sustainable Engineering (Graduate Certificate)	135
SW - Social Work	753
SWA - Swahili	761
SYE - Systems Engineering	762
Systems Engineering (Bridge Graduate Certificate)	132
T	
Taxation (M.S.T. Program)	78
Teacher Education	97
Teaching and Learning (M.Ed.)	109
TED - Teacher Education	763
Theatre and Dance	148
Theatre and Dance (M.A.)	150
Theatre (M.F.A.)	148
Theoretical and Behavioral Foundations	110
THR - Theatre	765
Transcultural Nursing (Graduate Certificate)	271
Translational Neuroscience (Ph.D.)	257
Tuition and Fees	57
U	
UGR - Undergraduate Research	776
UKR - Ukrainian	777
University Libraries and Archives	62
University Policies	63
UP - Urban Planning	778
Urban Planning (M.U.P.)	223
Urban Studies and Planning	222
Urology	241
US - Urban Studies	781
W	
Women's Health Nurse Practitioner (Graduate Certificate)	272
World History (Bridge Graduate Certificate)	200